



PCB REMEDIATION PLAN

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TABLE OF CONTENTS

SECTION	PAGE NO.
1. INTRODUCTION	1-1
1.1 Conceptual Site Model	1-1
1.2 Plan Organization	1-2
2. BUILDING MATERIALS CHARACTERIZATION	2-1
2.1 Characterization Sample Collection	2-1
2.1.1 Sample Collection Methods	2-1
2.1.2 Laboratory Analysis	2-1
2.2 Data Useability Assessment	2-2
2.3 Characterization and Renovation Scope of Work	2-2
2.3.1 First Floor Storefront Windows and Doors	2-3
2.3.2 Elevator Hall Windows (Type D)	2-4
2.3.3 Dormitory Room Windows (Type A)	2-6
2.3.4 Narrow Stairwell Windows (Types G, H, and I)	2-6
2.3.5 Stairwell Windows (Type J)	2-7
2.3.6 Stairwell Doors (Type K)	2-8
2.3.7 Balcony Windows and Doors (Type B and C)	2-8
2.3.8 Adjacent Surfaces	2-9
2.4 Characterization Summary	2-9
3. REMEDIATION PLAN	3-1
3.1 Remediation Overview	3-1
3.2 Site Preparation and Controls	3-2
3.3 Implementation	3-3
3.3.1 Storefront Windows and Doors	3-3
3.3.2 Elevator Hall Windows	3-5
3.3.3 Encapsulation of Building Materials	3-6
3.4 Storage and Disposal	3-7
3.5 Site Restoration	3-7
3.6 Recordkeeping and Documentation	3-7
3.7 Conceptual Monitoring And Maintenance Plan	3-7

LIST OF TABLES

TABLE

Table 2-1:	Summary of Sealant Characterization Sampling Results
Table 2-2:	Summary of Adjacent Materials Characterization Sampling Results
Table 3-1:	Summary of Remedial Approach

LIST OF FIGURES

FIGURE

Figure 1-1:	Site Location Map
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LIST OF APPENDICES

APPENDIX

Appendix A:	Laboratory Analytical Reports & Data Validation Summary
Appendix B:	Project Specification Drawings
Appendix C:	Written Certification
Appendix D:	Air Monitoring Plan

1. INTRODUCTION

This remediation plan has been prepared by Woodard & Curran (W&C) on behalf of the University of Massachusetts (UMass) to comply with U.S. Environmental Protection Agency (EPA) requirements for a polychlorinated biphenyl (PCB) cleanup and disposal under 40 CFR Part 761.61. This plan describes the data collected and details the proposed remedial approach for PCB-containing caulking and PCB-impacted building materials to be encountered during planned renovations at the Webster House dormitory located at 141 Orchard Hill Drive on the UMass Campus in Amherst, Massachusetts (Figure 1-1).

The Webster House, originally constructed in 1965 is a residential dormitory for undergraduate students. The building is seven stories high with dormitories on the second through seventh floors and common areas and meeting rooms on the first floor.

The Webster House is located within the Orchard Hill Residential area and is surrounded by other dormitory buildings, parking areas, and open areas. Surrounding ground surfaces are generally flat or slightly sloped away from the building and are either covered with asphalt pavement, concrete, or landscaped areas.

1.1 CONCEPTUAL SITE MODEL

In preparation for a building wide window and door replacement project, a materials survey was conducted to check for the presence of various hazardous materials that may be encountered during the project. This included inspection and sampling of suspect materials for asbestos and PCBs.

Certain joint caulking used as part of standard construction practices for masonry buildings and concrete structures erected between the 1950's and late 1970's is known to have been manufactured with PCBs. PCBs were added to caulking for durability, resistance to degradation, and as a softener/plasticizer for application. Due to the porous nature of concrete and other masonry surfaces, PCBs in caulking may penetrate into adjacent materials during application or over time, may leach or weather, and/or may be disturbed during renovations or other work. Production and approved usage of PCBs was halted in the United States in the late 1970s. As indicated above, the Webster House was constructed during this time period.

Interior and exterior caulking and glazing sealant within the area subject to renovation work were observed during the survey and samples were collected for analysis. Results from the sealant sampling indicated that the majority of the samples were either non-detect or exhibited PCB concentrations < 50ppm. However, PCBs were present in caulking on two types of windows at concentrations ≥ 50 ppm.

Characterization samples of building materials adjacent to the caulking containing ≥ 50 ppm were collected to determine the nature and extent of PCB impacts in these materials. Characterization sample results have been used, in conjunction with the overall renovation plan, to develop a remediation plan for the removal and disposal of ≥ 50 ppm PCB-containing caulking and building materials adjacent to caulking containing PCBs ≥ 50 ppm.

The window and door replacement activities are scheduled to begin following the conclusion of the 2011 spring semester and the majority of the work is anticipated to be completed prior to the return of students in the fall.

1.2 PLAN ORGANIZATION

This Remediation Plan is organized into the following sections:

Section 2: Building Materials Characterization

The characterization section provides a summary of the characterization data that have been collected to delineate the nature and extent of PCBs in each media.

Section 3: Remediation Plan

The remediation plan section includes a discussion of the remedial objectives and cleanup levels, the remediation approach for each PCB-affected media, a proposed schedule and sequence of activities, and a verification approach. This remediation plan has been prepared according to the requirements for a 40 CFR 761.61 request for the cleanup, disposal, and/or encapsulation of PCB remediation.

2. BUILDING MATERIALS CHARACTERIZATION

During characterization activities, samples were collected from interior and exterior caulking, and from materials adjacent to caulking in both interior and exterior locations in observance of proper sample collection techniques, analytical methods, and reporting procedures. This section provides a discussion of the nature and extent of PCB-affected media encountered at locations planned for renovations at Webster House.

2.1 CHARACTERIZATION SAMPLE COLLECTION

A total of 49 samples were collected and analyzed for PCBs. A breakdown of samples collected by media is provided below:

- Interior Sealant Samples – 13 samples of caulking and glazing sealant materials were collected and submitted for PCB analysis from interior locations;
- Exterior Sealant Samples – 23 samples of caulking and glazing sealant materials were collected and submitted for PCB analysis from exterior locations; and
- Exterior Adjacent Materials – 13 samples of concrete and slate were collected and submitted for PCB analysis from locations adjacent to exterior caulking samples.

2.1.1 Sample Collection Methods

Caulking samples were collected by cutting and scraping the caulking from the joint with hand tools. If adjacent media (e.g., concrete or a foam backer rod) was inadvertently removed in the process of sample collection, this media was physically removed from the caulking before the sample was placed in its sample container.

Building material (concrete and slate) sampling was conducted in accordance with the USEPA Region I Draft Standard Operating Procedure for Sampling Concrete in the Field (December 1997). The material was ground into dust using a hammer drill to a depth of 0.5 inches into the material at each sample location. Sample media was collected from surfaces by attaching a disposable trap beneath the sample location to gather the dust as it was generated.

Reusable sampling equipment was decontaminated between each location by scrubbing with a biodegradable soap and water solution (Alconox) followed by a water rinse and a final methanol rinse then allowed to air dry.

2.1.2 Laboratory Analysis

Samples collected by Woodard & Curran were logged on standard chain of custody (COC) forms and stored on ice for delivery to Analytics Environmental Laboratory of Portsmouth, New Hampshire. Initial caulking samples collected by PEER Consultants, P.C. (PEER) (initial hazardous material inspection and sampling) were logged on standard COC forms and delivered to Northeast Analytical, Inc. of Schenectady, New York. All samples were extracted using USEPA Method 3540C (Soxhlet Extraction) and analyzed for PCBs using USEPA Method 8082.

The complete laboratory analytical reports for the data presented in this report are provided in Appendix A.

2.2 DATA USEABILITY ASSESSMENT

This data quality and data usability assessment has been conducted to review the 49 primary samples collected to date in support of the characterization activities. This precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) evaluation includes an assessment of those parameters as well as quality assurance / quality control (QA/QC) samples as they affect the usability of sample results. These indicators have been examined in the context of the intended use of the data, and an overall assessment of site conditions.

For samples collected by PEER and given the data package provided, this review included a check of extraction and analytical methods and holding times. Results of this check indicated that all samples were extracted using method 3540C (Soxhlet extraction) and analyzed via USEPA 8082 within 14 days of sample collection with the exception of three samples: WC3-1, WC11-1, and WC16-1 which were analyzed 18 days after sample collection. No qualifications will be applied to the data because the date of extraction was not reported by the laboratory and so it can not be determined if the samples were extracted within the allowable holding time of 14 days. Samples collected by PEER were not received on ice and recorded a sample temperature upon receipt of 22 degrees. All results reported with PCBs above the laboratory's minimum reporting limits have been qualified as estimated (J), and the non-detect result has been qualified as estimated (UJ). Based on the overall consistency of analytical results between samples collected from similar locations and physical appearance (within the PEER sample group and as compared to samples collected by W&C) and the sample media (caulking) qualifications to the data were not determined to effect the characterization and remedial decisions of this plan.

For samples collected by W&C, the review included a check of field documentation including sample collection and preservation methods, a check of the laboratory data and documentation, a review of the internal laboratory QA/QC procedures and results including surrogate recoveries, matrix spike and matrix spike duplicate results, blank results, and laboratory control standard results, and an evaluation of sample holding times and field duplicate results. The assessment was performed in general accordance with the Region I, EPA NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 criteria, and its updates in Parts I-IV, November 2008 as well as the referenced methods. The data validation summary for the data is provided with the laboratory analytical reports in Appendix A. Highlights of the data quality and data usability assessment that resulted in applying qualifications to the data are summarized below:

- The relative percent difference (RPD) between the column results for detected PCBs met acceptance criteria ($\leq 25\%$) in all samples with the exception of three samples (WH-CBK-002, WH-CBK-005, and WH-CBK-013); these results have been qualified as estimated (J);

One field duplicate sample and one aqueous field equipment blank sample were submitted for analysis with this data set. The relative percent difference between the primary sample (WH-CBK-16) and duplicate sample (WH-CBK-017) met acceptance criteria, and no qualifications were applied. No analytes were detected in the aqueous field equipment blank sample, and no qualifications were applied.

Based on a review of the analytical results with regard to the PARCCS parameters, this data quality / data usability assessment indicates that the data is of sufficient quality for use in developing the conceptual site model described herein and for use in developing the remediation plan presented in Section 3.

2.3 CHARACTERIZATION AND RENOVATION SCOPE OF WORK

The results of the inspection and characterization sampling are presented in the following sections by window type as presented on the project specification drawings included in Appendix B. As part of the initial inspection, an inventory of all caulked joints and window glazing sealants was conducted. A summary of the types and locations of caulking and glazing sealants within each of the window types is included in the sections below.

A summary of caulking and glazing sealant characterization sampling results is presented on Table 2-1. Analytical results from adjacent building material characterization samples are summarized on Table 2-2.

2.3.1 First Floor Storefront Windows and Doors

Storefront type windows and doors are present on first floor locations on all sides of the building and include smaller first floor windows above the slate building façade, the doorways integral to the storefront windows, and the main doorway entrances (they do not include the main stairwell doors or windows, which are discussed below). During the site inspection, different types of caulking (based on physical appearance) were observed on metal window frame to adjacent materials joints on exterior locations. Adjacent materials included concrete building foundation, concrete/stucco ceiling, vertical concrete surfaces, and slate building façade. At interior locations, caulking was observed on three vertical metal frame to slate joints only. No other interior caulking was observed; although materials were not present at accessible locations, portions of the window frames were inaccessible for inspection due to the presence of building materials, primarily dry wall and ceiling. A total of 1,223 linear feet (l.f.) of caulking was identified on window frame to masonry surfaces. Different types of glazing sealants (based on differing physical appearance) were also observed between glass to metal frame joints on exterior locations.

Analytical results indicate that caulking located on exterior joints between the frames and adjacent building materials (i.e., concrete and slate) contained PCBs at concentrations ranging from 25.6 to 326 ppm. Based on the presence of different types of caulking, and the range of concentrations reported (close to or greater than 50 ppm), all exterior



Sealant Characterization Results - Storefront Windows

caulking between the metal frames and the adjacent building materials has been assumed to contain PCBs ≥ 50 ppm. Based on a similar physical appearance to exterior caulking, interior caulking on metal frame to slate joints has been assumed to contain PCBs ≥ 50 ppm. Analytical results from samples of glazing sealants on the glass to frame joints indicated that PCBs were non-detect (< 0.49 ppm) or at concentrations ranging from 1.2 to 15.7 ppm with an average reported concentration of 6.3 ppm.

The existing project scope includes the removal and replacement of all first floor windows identified as “Storefront” windows and the installation of a sheet metal cladding over the location of the existing joint and across the adjacent

materials (the extent of the cladding varies depending on the location of the joint and the adjacent materials as described Section 3).

Characterization samples were collected from materials adjacent to caulking identified as containing ≥ 50 ppm PCBs. Sample locations were selected based on the planned project scope including the extent of sheet metal installation included in the renovations (given that this material may be used as a containment barrier, if needed). Results from characterization samples were as follows:

- Lower Concrete Foundation (180 l.f. of joint) – One sample of the concrete foundation was collected at a distance of 5 inches below the upper horizontal face of the foundation. Analytical results reported PCBs at a concentration of 0.14 ppm;
- Stucco Overhand Ceiling (165 l.f. of joint) – One sample of the stucco overhang material was collected at a distance of 5 inches from the upper horizontal caulked joint and one sample was collected at a distance of 23 inches. Analytical results indicated that PCBs were non-detect (< 0.1 ppm) in both samples;
- Concrete Ceiling (430 l.f. of joint) – Two samples of concrete ceiling material was collected at distances of 1 inch from the caulked joint. Analytical results indicated that PCBs were non-detect (< 0.095 and < 0.10 ppm);
- Vertical Concrete Columns (40 l.f. of joint) – One sample of concrete adjacent to vertical caulked joints was collected at a distance of $\frac{1}{4}$ -inch from the caulked joint. Analytical results indicated that PCBs were non-detect (< 0.095 ppm);
- Horizontal Slate Surfaces (397 l.f. of joint) – One sample of slate was collected at a distance of $\frac{1}{4}$ -inch below the upper horizontal face of the slate façade. Analytical results indicated that PCBs were non-detect (< 0.10 ppm); and
- Vertical Slate Surfaces (26 l.f. of joint) – Two vertical caulked frame to slate joints are located on the northeast and southwest elevations and three joints are located in entrance ways / common areas on the interior of the building. Two samples of slate were collected at a distance of $\frac{1}{4}$ -inch from exterior locations. Analytical results indicated that PCBs were non-detect (< 0.10 ppm) in both samples.

2.3.2 Elevator Hall Windows (Type D)

Elevator hall windows, identified as Type D windows on the east and west building elevations, are present from the second through seventh floors for a total of 12 windows. During the site inspection, caulking was observed on the interior and exterior window frame to masonry joints and on a single vertical metal to metal joint located in the center of each window. No caulking was present on the interior lower horizontal joints. Glazing sealant was observed on interior frame to glass joints. Concrete building materials were observed adjacent to the windows on all interior and exterior locations.

Four samples of caulking and glazing sealant were collected from the Elevator Hall Windows as follows:

- Interior Frame to Masonry Joints (432 l.f.) – A $\frac{1}{2}$ -inch wide bead of grey, hard caulking was observed on the interior frame to masonry joints. Analytical results indicated that PCBs were present at a concentration of 296 ppm;

- Interior Frame to Frame Joint (78 l.f.) – A ¾-inch wide bead of dark grey, soft, pliable caulking was observed on the vertical metal to metal window frame joints. Analytical results indicated that PCBs were present at a concentration of 160,000 ppm;
- Interior Glazing Sealant– A 1/8-inch wide bead of black, soft, glazing sealant was observed on the interior metal to glass joints. Analytical results indicated that PCBs were present at a concentration of 23 ppm; and
- Exterior Frame to Masonry Joints (432 l.f.) – A ½ to ¾-inch wide bead of grey soft, flexible caulking was observed on the exterior frame to concrete joints (this caulking was similar in physical appearance to that observed on the exterior stairwell windows and balcony windows and doors). Analytical results indicated that PCBs were present at a concentration of 7.2 ppm.

The existing project scope includes the removal and replacement of all elevator hall windows and the installation of sheet metal cladding to a distance of three inches beyond the existing caulked joint.

Characterization samples were collected from interior and exterior adjacent materials at a distance of one inch from the caulked joint as follows:

- Interior Concrete – One sample of interior concrete materials was collected at a distance of 1 inch from the vertical caulked joint. Analytical results indicated that PCBs were present at a concentration of 0.79 ppm; and
- Exterior Concrete – Two samples of concrete were collected from exterior caulked joints. Analytical results indicated that PCBs were present at a concentration of 0.18 ppm at a distance of 1 inch below the lower horizontal caulked joint and were non-detect at a distance of 1 inch from the vertical concrete joint.

A presentation of the interior analytical results associated with the Elevator Hall Windows is provided below:



2.3.3 Dormitory Room Windows (Type A)

Dormitory room windows, identified as Type A windows on the project drawings, are located on all sides of the building. During the site inspection, caulking was observed on interior and exterior frame to brick joints and glazing sealant was observed on exterior frame to glass joints. The majority of interior and exterior caulking observed consisted of a ½ to ¾-inch wide bead of brown, brittle, hard caulking similar to that observed on the interior joints of narrow stairwell windows and stairwell windows (see 2.3.4 below). On some exterior locations, primarily on the northwest elevation, a ½ to ¾-inch bead of grey, soft, flexible caulking was present. No underlying caulking was observed beneath this grey caulking.



Samples of caulking and glazing sealant were collected and submitted for PCB analysis as follows:

- Interior Frame to Brick Joints – Five samples of interior caulking were collected and submitted for PCB analysis. Analytical results indicated that PCBs were present at concentrations ranging from 6.17 to 28.4 ppm with an average concentration of 13 ppm;
- Exterior Frame to Brick/Concrete Joints – Five samples of exterior caulking were collected and submitted for PCB analysis. Analytical results indicated that PCBs were present at concentrations ranging from 8.52 to 29 ppm with an average concentration of 17 ppm; and
- Exterior Glazing Sealant – One sample of exterior glazing was collected and submitted for PCB analysis. Analytical results indicated PCBs were non-detect (<0.42 ppm).

Type A Window

The existing project scope includes the removal and replacement of all Type A windows.

2.3.4 Narrow Stairwell Windows (Types G, H, and I)

Narrow stairwell windows, identified as Type G, H, and I windows on the project drawings, are located on the north and south sides of the east and west stairwells. The windows are constructed as a continuous run of windows across the height of the building. During the site inspection, caulking was observed on interior and exterior frames to brick and exterior frames to concrete joints and glazing sealant was observed on interior frames to glass joints.

Samples of caulking and glazing sealant were collected and submitted for PCB analysis as follows:

- Exterior Frame to Masonry Joints – A ½-inch wide bead of grey, soft caulking was observed on exterior joints. Two samples were collected and submitted for PCB analysis. Analytical results indicated that PCBs were present at concentrations of 4.3 and 5.33 ppm;
- Interior Frame to Brick Joints – A ½ to ¾-inch wide bead of tan, hard, brittle caulking was observed on interior joints (this caulking was similar in appearance to that observed on dormitory and stairwell windows).

One sample was collected and submitted for PCB analysis. Analytical results indicated that PCBs were present at a concentration of 7.2 ppm; and

- Interior Glazing Sealant – A 1/8-inch bead of light grey, flakey material was observed on interior frame to glass joints. One sample was collected from each stairway and submitted for PCB analysis. Analytical results indicated PCBs were present at concentrations of 2.3 and 5.2 ppm.

The existing project scope includes the removal and replacement of all narrow stairwell windows.

2.3.5 Stairwell Windows (Type J)

Stairwell windows, identified as Type J windows on the project drawings, are located at the east and west side stairwell landings from the second through seventh floors (total of 12 windows). During the site inspection, caulking was observed on interior and exterior frame to concrete joints and glazing sealant was observed on interior frame to glass joints.

Samples of caulking and glazing sealant were collected and submitted for PCB analysis as follows:

- Exterior Frame to Concrete Joints – A 1/2 to 3/4-inch wide bead of grey, soft caulking was observed on exterior joints (this caulking was similar in physical appearance to that observed on the exterior elevator hall windows and balcony windows and doors which detected PCBs at 4.0, 7.2, and 7.4 ppm). One sample was collected and submitted for PCB analysis. Analytical results indicated that PCBs were present at a concentration of 4.4 ppm;
- Interior Frame to Concrete Joints – A 1/2 to 3/4-inch wide bead of tan, hard, brittle caulking was observed on interior joints (this caulking was similar in appearance to that observed on dormitory room and narrow stairwell windows which detected PCBs at an average concentration of 13 ppm). One sample was collected and submitted for PCB analysis. Analytical results indicated that PCBs were present at a concentration of 3.5 ppm; and
- Interior Glazing Sealant – A 1/8-inch bead of white grey, flakey material was observed on interior frame to glass joints. One sample was collected and submitted for PCB analysis. Analytical results indicated PCBs were present at a concentration of 1.5 ppm.

The existing project scope includes the removal and replacement of all stairwell windows.

2.3.6 Stairwell Doors (Type K)

Stairwell doors, identified as Type K on the project drawings, are present on the first floor of the east and west side stairwells. The door assemblies consist of a standard doorway with a side light window on one side. During the site inspection, caulking was observed on exterior frame to concrete joints and glazing sealant was observed on exterior frame to glass joints.

Samples of caulking and glazing sealant were collected and submitted for PCB analysis as follows:

- Exterior Frame to Concrete Joints – A ½-inch wide bead of grey, soft caulking was observed on exterior joints. One sample was collected and submitted for PCB analysis. Analytical results indicated that PCBs were present at a concentration of 4.4 ppm; and
- Exterior Glazing Sealant – A 1/8-inch bead of black, flexible material was observed on exterior frame to glass joints. One sample was collected and submitted for PCB analysis. Analytical results indicated PCBs were non-detect (<0.48 ppm).



West Stairwell Doorway

The existing project scope includes the removal and replacement of all stairwell doors.

2.3.7 Balcony Windows and Doors (Type B and C)

Balcony windows and doors, identified as Type B and C on the project drawings, are present at six locations on the northwest and southeast elevations (total of 12 balcony windows and door assemblies) and provide access from common areas and/or resident advisor residences to exterior balconies. During the site inspection, caulking was observed on exterior frame to concrete joints. No interior caulking was observed and rubber gasket materials were present on all interior and exterior frame to glass joints.



Balcony Windows and Doors

Exterior caulking material consisted of a ½-inch wide bead of grey, soft caulking on all frame to concrete joints (similar to that observed on the exterior joints of elevator hall and stairwell windows). Two samples were collected and submitted for PCB analysis. Analytical results indicated that PCBs were present at concentrations of 4.0 and 7.4 ppm.

The existing project scope includes the removal and replacement of all balcony windows and doors.

2.3.8 Adjacent Surfaces

Ground surfaces surrounding the Webster House consist of concrete walkways, asphalt drives, and soil and landscaped areas. A full assessment of the types and extent of adjacent ground surfaces was not conducted due to weather limitations. Given the project timing, work associated with the window replacement activities is proposed to be performed before any PCB remediation work that may be needed for adjacent ground surfaces. It is planned that an addendum to this Plan for subsequent EPA Approval will be completed for ground surfaces adjacent to the Webster House.

2.4 CHARACTERIZATION SUMMARY

Based on the 49 characterization samples collected, the areas subject to planned renovation activities have been grouped into the following categories with regard to PCB management procedures:

Materials \geq 50 ppm total PCBs:

- Exterior and interior caulking and metal frames coated or in direct contact with the caulking
 - First Floor Storefront Windows and Doors
- Interior caulking and metal frames coated or in direct contact with the caulking
 - Elevator Hall Windows (outer and inner frames)

Materials $<$ 50 ppm total PCBs:

- Glazing sealants (glass to metal frames):
 - First Floor Storefront Windows and Doors
 - Elevator Hall Windows (interior)
 - Dormitory Room Windows
 - Narrow Stairwell Windows
 - Stairwell Windows
 - Stairwell Doors
- Exterior caulking and metal frames coated or in direct contact with the caulking:
 - Elevator Hall Windows
 - Dormitory Room Windows
 - Narrow Stairwell Windows
 - Stairwell Windows
 - Stairwell Doors
 - Balcony Windows and Doors
- Interior caulking and metal frames coated or in direct contact with the caulking:
 - Dormitory Room Windows
 - Narrow Stairwell Windows
 - Stairwell Windows

3. REMEDIATION PLAN

This plan has been developed for the remediation of ≥ 50 ppm PCB-containing caulking and adjacent building materials that will be disturbed during upcoming window and door replacement work. A general overview of the proposed remedial activities is presented in Section 3.1, and a detailed description of the approach for each of the areas is presented in subsequent sections. The written certification signed by the owner of the property and required per 40 CFR 761.61 is provided in Appendix C.

Caulking and sealants identified as containing > 1 and < 50 ppm PCBs have been identified in joints associated with the majority of windows and doors (except as noted in Section 2 above). Interviews with facilities personnel indicated that there have not been any large scale window or door replacement or renovation projects on the building, which was constructed in 1965. Any caulking installed after the original construction would have been installed in limited areas in response to isolated leaks around the building. First floor doors have been replaced on multiple occasions; however, these replacements focused on the doors only and not the frames of the doors. During inspections conducted during the characterization sampling, no additional caulking or caulk residue was observed beneath the materials sampled.

Based on this information, caulking and sealants containing > 1 and < 50 ppm have been determined to meet the definition of an Excluded PCB Product per 40 CFR 761.3. The project specifications prepared for the renovation project have identified the specific windows / doors as having detectable concentrations of PCBs at these levels in the caulk and sealants for management and disposal purposes.

3.1 REMEDIATION OVERVIEW

This remediation plan has been prepared to meet the requirements of 40 CFR 761.62 and 761.61. Caulking materials identified as containing ≥ 50 ppm PCBs have been identified on exterior and interior locations along the first floor storefront windows and interior locations on the elevator hall windows. Caulking containing ≥ 50 ppm PCBs will be removed and disposed of as PCB bulk product wastes in accordance with 40 CFR 761.62.

Remediation of adjacent building materials will be conducted in accordance with 40 CFR 761.61. Window and door frames and components coated or in direct contact with ≥ 50 ppm PCB caulking will be segregated and removed for disposal with the caulking as ≥ 50 ppm PCB waste. Remaining portions of the first floor storefront and elevator hall windows will be disposed of as PCB wastes based on the concentrations of caulking or glazing sealant in direct contact with those components (including glass).

At this time, it is anticipated that this waste segregation approach will be implemented. However, if the contractor determines that material segregation is infeasible or highly labor intensive, all components of this window bank will be managed for disposal as PCB waste ≥ 50 ppm without waste stream segregation.

Following removal of caulking and caulk residues, samples of the remaining building materials will be collected and analyzed for PCBs to determine if PCBs are present at concentrations > 1 ppm in materials formerly in direct contact with the caulking. Building material (concrete and slate) sampling will be conducted in accordance with the USEPA Region I Draft Standard Operating Procedure for Sampling Concrete in the Field (December 1997). All samples will be transported to the laboratory under standard Chain of Custody procedures, extracted using USEPA Method 3540C (Soxhlet extraction), and analyzed for PCBs using USEPA Method 8082. Analytical results from the samples will be compared to the high occupancy clean-up criteria of 1 ppm as follows:

- Total PCBs > 1 ppm – building materials will be encapsulated through the application of two coats of liquid coating to materials formerly in direct contact with caulking and across adjacent horizontal or vertical surfaces to established distances (as detailed below);
- Total PCBs ≤ 1 ppm – no further action warranted.

Verification wipe samples will be collected in accordance with the standard wipe test method as specified in 40 CFR 761.123. For the encapsulated surfaces, the sheet metal cladding installed over adjacent building materials will be utilized as a final barrier to impacted building materials. Accordingly, there will be no resultant exposure to PCBs in the contained concrete, resulting in conditions protective of human health and the environment. Long-term maintenance and monitoring of those surfaces required to be encapsulated will be implemented at the conclusion of remedial actions. This approach is considered an interim measure, and will require proper disposal of any remaining PCB remediation waste upon removal of the material or at the time of building demolition (see Sections 3.3.3 and 3.7 below).

A summary of the remediation approach is provided as Table 3-1.

3.2 SITE PREPARATION AND CONTROLS

Prior to initiating any of the remediation activities, the following controls will be implemented:

- A Health & Safety Plan will be developed for the specific work activities to be conducted. Workers will follow applicable Federal and State regulations regarding the work activities, including but not limited to OSHA regulations, fall protection standards, respiratory protection, ladder/scaffolding safety, personal protective equipment, etc.
- Additional notifications and plans required for the work activities will also be prepared and submitted for approval, as needed.
- Access to the active work areas will be restricted by fencing and signage with controlled access points.
- Prior to initiation and periodically during the work activities, project-related communications with building employees and contractors will be undertaken on an as needed basis. These communications may include schedule updates regarding disruption to particular areas, restrictions on exterior door use, or significant project updates. It is anticipated that the majority of the work will be conducted when the students are not in the building. Additional communications will also be performed through the University's web site.
- To reduce particulate levels and exposures to airborne particulates, a combination of engineering controls (e.g., work zone enclosures, wetting, etc.) and personal protective equipment (PPE) will be implemented as part of the work activities.
- Remediation will be performed under engineering controls appropriate for an asbestos abatement as some caulking were reported as 2% chrysotile asbestos. For locations in which removal will be conducted from the interior of the building engineering controls will including negative pressure controls. For locations in which removal will be conducted from the exterior side of the building, a containment barrier will be established in the interior side of the window and polyethylene sheeting will be used to control blowing dust and debris along exterior locations. Wet wiping and water misting will be used as a dust suppressant as appropriate. No grinding or saw cutting will be used for caulking removal. Dust monitoring will be conducted in accordance with Appendix D during active dust generating removal activities such as saw cutting of the stucco overhang ceiling materials or the removal of residual caulking following window

removal. Based on the engineering controls to be implemented and the minimal amount of disturbance to the caulking required for window removal, dust monitoring will not be incorporated during window removal activities alone.

- Ground cover (polyethylene sheeting or equivalent) will be placed along the building walls to serve as containment for any debris or building materials removed. Any debris collected within the polyethylene containment areas or on ground cover sheeting will be gathered and placed in the appropriate containers at the end of each work day. After use, disposable PPE and poly sheeting used to collect debris will be placed in the appropriate containers for disposal as PCB remediation waste.

3.3 IMPLEMENTATION

The PCB remediation tasks described in the following sections include the removal and off-site disposal of caulking and window and door frame components containing PCBs ≥ 50 ppm and the application/installation of an encapsulating barrier to PCB impacted building materials not subject to removal as part of the upcoming renovations, if needed. The extent of potential encapsulation for managing adjacent materials at each location varies depending on the renovation plans for that area.

3.3.1 Storefront Windows and Doors

Exterior caulking on the metal frame to building material joints contains PCBs ≥ 50 ppm. Interior caulking, located on three vertical caulked joints, has also been assumed to contain ≥ 50 ppm PCBs. The remedial approach for the caulking and adjacent materials is described below.

PCB containing caulking – A total of 1,223 l.f. of ≥ 50 ppm PCB-containing caulking is present on interior and exterior frame to masonry joints. Caulking associated with the storefront windows and doors will be removed and disposed of as PCB bulk product waste in accordance with 40 CFR 761.62.

Metal window and door frames – Window and door frames and components are to be removed and segregated for disposal as follows:

- Window and door frames and components coated or in direct contact with ≥ 50 ppm PCB containing caulking will be removed with the caulking for disposal as ≥ 50 ppm PCB waste;
- All remaining window frames and components (including glass) are to be segregated for disposal as > 1 ppm and < 50 ppm PCB waste.

At this time, it is anticipated that this waste segregation approach will be implemented. However, if the contractor determines that material segregation is infeasible or highly labor intensive, all components of this window bank will be managed for disposal as PCB waste ≥ 50 ppm without waste stream segregation.

Concrete Foundation – Consistent with the overall approach outlined above, following caulking removal, verification samples will be collected from the concrete to determine if PCBs > 1 ppm are present in materials that were in direct contact with the caulking. Verification samples will be collected at a frequency of one sample per 50 l.f. of material for a total of four verification samples. Results of the verification sampling will be evaluated as follows:

- PCBs > 1 ppm - concrete formerly in direct contact with the caulked joint across the upper horizontal face of the foundation and to a distance of five inches below the upper horizontal face of the foundation (location of the characterization sample with PCB < 1 ppm and extent of planned sheet metal cladding installation) will

be managed in-place through encapsulation (liquid coating) and a second barrier, sheet metal cladding, will also be installed to this distance (See Section 3.3.3 for additional information); or

- PCBs ≤ 1 ppm –no additional remedial activities will be conducted for the concrete.

Stucco Overhang Ceiling – The existing project scope includes the removal and disposal of the entire stucco overhang ceiling as asbestos containing materials (ACM). Based on results of characterization sampling which indicated that PCBs were present at concentrations < 1 ppm at a distance of five inches from the caulked joint, stucco ceiling materials in direct contact with the caulking and to a distance of five inches will be removed for disposal as ≥ 50 ppm PCB wastes.

Upon removal, verification samples will be collected from the remaining stucco ceiling materials (laterally beyond the extent of removal) and those materials observed above the ceiling following removal, if present, at a frequency of one sample per 50 l.f. of caulked joint for a total of eight samples (four from the stucco ceiling and four from materials above the ceiling if found in direct contact). Results of verification samples will be evaluated as follows:

- PCBs > 1 ppm – additional materials will be removed for disposal based on the at-found PCB concentrations, if planned for removal, and additional verification samples collected at extent of removal; if additional materials are not planned for removal during the renovation project, then encapsulation methods will be implemented; or
- PCBs ≤ 1 ppm – no additional PCB remedial activities will be conducted for these materials.

Concrete Ceiling – Consistent with the overall approach outlined above, following caulking removal, verification samples will be collected from the concrete to determine if PCBs > 1 ppm are present in materials that were in direct contact with the caulking. Verification samples will be collected at a frequency of one sample per 50 l.f. of material for a total of nine verification samples. Results of the verification sampling will be evaluated as follows:

- PCBs > 1 ppm - concrete formerly in direct contact with and to a distance of 1 inch from the former caulked joint (location of initial characterization samples with PCBs < 1 ppm) will be managed in-place through encapsulation (liquid coating) and a second barrier, sheet metal cladding, will also be installed to a distance of 8 inches from the caulked joint (see Section 3.3.3 for additional information); or
- PCBs ≤ 1 ppm – no additional PCB remedial activities will be conducted for these materials.

Concrete Materials Adjacent to Vertical Joints – Consistent with the overall approach outlined above, following caulking removal, verification samples will be collected from the concrete to determine if PCBs > 1 ppm are present in materials that were in direct contact with the caulking. Two verification samples will be collected from the five joints to obtain representative data for potential differences in weathering due to varying exposure (i.e., from different sides of the building). Results of the verification sampling will be evaluated as follows:

- PCBs > 1 ppm - concrete formerly in direct contact with and to a distance of one inch from the existing caulked joint (the location of the characterization sample with PCBs < 1 ppm) will be managed in-place through encapsulation (liquid coating) and a second barrier, sheet metal cladding, will also be installed to a distance of 3 inches from the caulked joint (see Section 3.3.3 for additional information); or
- PCBs ≤ 1 ppm – no additional PCB remedial activities will be conducted for these materials.

Horizontal Slate Joints – Consistent with the overall approach outlined above, following caulking removal, verification samples will be collected from the slate to determine if PCBs > 1 ppm are present in materials that were in direct contact with the caulking. Verification samples will be collected at a frequency of one sample per 50 l.f. of material for a total of eight verification samples. Results of the verification sampling will be evaluated as follows:

- PCBs > 1 ppm - slate materials formerly in direct contact with the joint, across the upper horizontal face of the façade and to a minimum distance of one inch below the upper horizontal face (the location of the characterization sample with PCBs < 1 ppm) will be managed in-place through encapsulation (liquid coating) and a second barrier, sheet metal cladding, will also be installed to this distance (See Section 3.3.3 for additional information); or
- PCBs ≤ 1 ppm – no additional PCB remedial activities will be conducted for these materials.

Vertical Slate Joints (Exterior and Interior) – Consistent with the overall approach outlined above, following caulking removal, verification samples will be collected from the slate to determine if PCBs > 1 ppm are present in materials that were in direct contact with the caulking. Three verification samples will be collected from the 26 l.f. of joint; two samples will be collected from exterior locations to obtain representative data for potential differences in weathering due to varying exposure (i.e., from different sides of the building) and one sample will be collected from an interior location. Results of the characterization sampling will be evaluated as follows:

- PCBs > 1 ppm - slate materials formerly in direct contact with and to a distance of one inch from the vertical caulked joint (the location of the characterization sample with PCBs < 1 ppm) will be managed in-place through encapsulation (liquid coating) and a second barrier, sheet metal cladding, will also be installed to a distance of 3 inches from the caulked joint (see Section 3.3.3 for additional information); or
- PCBs ≤ 1 ppm – no additional remedial activities will be conducted for these materials.

3.3.2 Elevator Hall Windows

Caulking containing ≥ 50 ppm PCBs has been identified on the interior metal frame to building material joints and on interior metal to metal vertical joints on each window. The remedial approach for the caulking and adjacent materials is described below.

Interior Caulking – A total of 510 l.f. of ≥ 50 ppm PCB-containing caulking is present on interior joints (window frame to masonry joints and vertical metal to metal frame joints). Caulking associated with these joints will be removed and disposed of as PCB bulk product waste in accordance with 40 CFR 761.62..

Window Frames and Components – Window frames and components are to be removed and segregated for disposal as follows:

- Window frames and components coated or in direct contact with ≥ 50 ppm PCB containing caulking will be removed for disposal as ≥ 50 ppm PCB waste; and
- Remaining portions of window frames and components (including glass) will be disposed of as > 1 ppm and < 50 ppm PCB wastes.

At this time, it is anticipated that this waste segregation approach will be implemented. However, if the contractor determines that material segregation is infeasible or highly labor intensive, all components of this window bank will be managed for disposal as PCB waste ≥ 50 ppm without waste stream segregation.

Interior Adjacent Masonry Materials – Consistent with the overall approach outlined above, following caulking removal, verification samples will be collected from the concrete to determine if PCB impacts > 1 ppm are present in materials that were in direct contact with the caulking. One verification sample will be collected from a randomly selected location on each floor (for a total of six samples) as follows:

- The individual window will be randomly selected (two windows per floor);
- The location of the verification sample on the joint will be selected by randomly selecting a number between 0 and 25 (representing the two 6.5 foot long vertical joints and the upper 12 foot long horizontal joint) with the zero point assigned to the bottom of the left vertical joint and proceeding clockwise around the window (i.e., 25 would be assigned to the bottom of the right vertical joint),

Results of the verification sampling will be evaluated as follows:

- PCBs > 1 ppm - concrete materials formerly in direct contact with and to a distance of one inch from the existing caulked joint (the location of the characterization sample with PCBs < 1 ppm) will be managed in place through encapsulation (liquid coating) and a second barrier, sheet metal cladding, will also be installed to a distance of 3 inches from the joint (see Section 3.3.3 for additional information); or
- PCBs ≤ 1 ppm – no additional PCB remedial activities will be conducted for these materials.

3.3.3 Encapsulation of Building Materials

Building materials identified through verification sampling as containing > 1 ppm PCBs will be managed in place through the installation of a barrier system designed to prevent direct contact exposure and potential weathering of the building materials. The barrier system will consist of two coats of a liquid coating (liquid epoxy coating such as Sikagard 62 or equivalent product) followed by the sheet metal cladding included in the building renovation designs. The lateral extent of the encapsulation away from the caulked joints will be based on the location of the characterization samples collected to date, which indicated that PCBs were non-detect or < 1 ppm in all sampled locations as well as on the extent of sheet metal cladding to be installed in accordance with the existing renovation scope of work.

Inspection and verification wipe testing will be conducted following application of the liquid coating. Visual inspection will be conducted to confirm that the application has been conducted in accordance with the manufacturer's specifications to the required extent on the remaining building materials. Verification wipe testing will be conducted at a frequency as indicated on Table 3-1. Verification wipe samples will be collected in accordance with 40 CFR 761.123. All samples will be transported to the laboratory under standard Chain of Custody procedures, extracted using USEPA Method 3540C (Soxhlet extraction), and analyzed for PCBs using USEPA Method 8082. Results of the verification wipe testing will be compared to an encapsulation goal of ≤ 1 µg/100cm² for the establishment of baseline monitoring in support of long term monitoring. If analytical results from the verification wipe sampling indicate that PCBs are present at concentrations > 1 µg/100cm² on the liquid encapsulant, additional verification wipe testing will be conducted following the installation of the sheet metal cladding.

In some locations, the selected replacement windows may be constructed with a larger width than the currently existing windows. In these locations, sheet metal cladding may not be installed if it is determined that the new window frames will extend to a distance greater than or equal to the extent of the applied liquid encapsulant.

3.4 STORAGE AND DISPOSAL

Caulking from the first floor storefront windows and elevator hall windows as well as window and door frames and components coated or in direct contact with the caulking will be managed as a single waste stream and designated as ≥ 50 ppm PCBs. Remaining portions of the first floor storefront windows and elevator hall windows (including glass and other sealants) will be segregated and managed as a single waste stream and designated for off-site disposal as > 1 ppm and < 50 ppm PCB wastes.

The following activities will be completed with regard to the proper storage and disposal of PCB wastes:

- Secure, lined, and covered waste containers (roll-off containers or equivalent), 55-gallon DOT-approved steel containers, or cubic yard boxes/totes will be staged for the collection of PCB wastes generated during the work activities in accordance with 40 CFR 761.65;
- Containers will be properly labeled and marked in accordance with 40 CFR 761.40;
- Upon completion of the work or when a container is considered full, PCB waste ≥ 50 ppm will be transported off-site under manifest, for disposal at EQ Wayne Disposal located in Belleville, Michigan, or equivalent TSCA waste disposal facility. PCB waste < 50 ppm will be transported to Waste Management's Turnkey Recycling and Environmental Enterprises (TREE) facility in Rochester, New Hampshire, or equivalent facility permitted to accept this type of waste.
- Copies of the waste shipment records, including manifests and certificates of disposal, will be collected and provided as part of the final report to EPA.

3.5 SITE RESTORATION

Following completion of the removal activities and verification that the cleanup levels have been met or the risk-based encapsulation approach applied, the building surfaces will be restored or contained as described in the preceding sections. The site controls will be dismantled and all wastes will be transported off-site for proper disposal.

3.6 RECORDKEEPING AND DOCUMENTATION

Following completion of the work activities, records and documents per 40 CFR Part 761 will be generated and maintained at one location. A final report documenting the completion of the work activities, verification analytical results, volumes of disposed materials, and waste disposal records will be prepared and submitted to EPA. This report will also include any necessary deed notices, if required, as part of the risk-based approach.

3.7 CONCEPTUAL MONITORING AND MAINTENANCE PLAN

As described in this plan, UMass may encounter conditions that require implementation of an alternate remedial approach under 40 CFR 761.61(c). This approach removes source materials and utilizes a physical barrier approach (liquid coating in joints and on façades) to eliminate the direct contact exposure pathway and migration pathways of PCBs remaining on the building. Upon completion of the remedial actions, the impacted material would not be accessible to direct exposure or migration to surrounding building materials.

If an encapsulated barrier is applied, a monitoring and maintenance plan (MMP) will be developed and implemented. The main components of the plan are as follows:

- Visual inspections – visual inspections of the encapsulated surfaces will be conducted. All inspections will be recorded and included in a report to the EPA. The inspections will consist of an assessment of the following:
 - Signs of the underlying coating, or excessive pitting, peeling, or breakages in the coating, if visible;
 - Signs of weathering or disturbance of the replacement caulking (where applied); and
 - A general inspection of the sheet metal cladding.
- Monitoring – At this time and because the outer barrier at all locations is planned to be sheet metal cladding, no wipe samples of the barrier are proposed to be collected over time. Depending on the results of the baseline wipe testing, modifications to this approach may be needed.
- Corrective Actions – if results of the inspections indicate that damage has occurred to a component of the barrier system, the needed repairs will be conducted;
- Maintenance Guidelines and Procedures – to prevent potential exposure to maintenance and facility personnel that may perform activities in the encapsulated areas, guidelines and procedures will be developed and implemented for any work being conducted in the respective encapsulated areas. These guidelines and procedures will detail communication procedures, worker protection requirements, and worker training requirements to be conducted for maintenance or other activities in these areas;
- Reporting – a report documenting the findings of the visual inspections will be prepared and submitted to EPA.

The details of the MMP will be developed following completion of the remedial activities described above. The results of the verification testing, baseline sampling, and inspections will be used to develop the details of the plan. The MMP will be provided to EPA under a separate submittal following the completion of the remedial activities.

Table 2-1

Summary of Sealant Characterization Sampling Results
Webster House
UMass Amherst

Window Type	Material	Sample ID	Total PCBs (mg/kg)	Location Description
First Floor Storefront Windows	Exterior Glazing	WC1-1	<0.49 UJ	1st Floor SW Elevation, Opening Window
		WC5-1	1.86 J	1st Floor, NE Elevation, Opening Window
		WC6-1	15.7 J	1st Floor, NE Elevation, Opening Window
		WC9-1	1.2 J	1st Floor, SW Elevation, Large Window
	Exterior Frame Caulking (1,470 l.f.)	WC8-1	43.6 J	1st Floor, NE Elevation, Opening Window
		WC2-1	55.7 J	1st Floor NE Elevation, Bottom Window Frame
		WC7-1	326 J	1st Floor, NE Elevation, Window Top
		WC4-1	25.63 J	1st Floor, SW Elevation, Outer Window Frame
Elevator Hall Windows (Type D)	Exterior Frame Caulking	WH-CBK-007	7.2	2nd Floor, west side window, vertical joint
	Interior Frame Caulking	WC14-1	296 J	7th Floor, east side window, vertical joint
	Interior Metal/Metal Caulking	WH-CBK-037	160,000	6th floor, west side window, vertical joint between frames
	Interior Glazing	WH-CBK-001	23	2nd floor, west side window
Dormitory Windows (Type A)	Exterior Frame to Brick Caulking	WC11-1	9 J	Room 228
		WC16-1	8.52 J	Room 428
		WC13-1	16.8 J	Room 733
		WH-CBK-023	29	Room 415
		WH-CBK-024	21	Room 312
	Interior Frame to Brick Caulking	WC10-1	8.78 J	Room 228
		WC17-1	28.4 J	Room 428
		WC12-1	6.17 J	Room 733
		WH-CBK-022	13	Room 608
		WH-CBK-025	9.2	Room 319
	Exterior Glazing	WC15-1	<0.42 UJ	Room 228, Opening Window, Exterior frame to glass joint
Narrow Stairwell Windows (Type G, H, I)	Exterior Frame to Brick Caulking	WC3-1	5.33 J	1st Floor, east stairwell
		WH-CBK-012	4.3	1st floor, west stairwell
	Interior Frame to Brick Caulking	WH-CBK-003	7.2	3rd floor, west stairwell
		WH-CBK-004	5.2	3rd floor, west stairwell
Stairwell Windows (Type J)	Interior Glazing	WH-CBK-005	2.3J	5th floor, east stairwell
		WH-CBK-013	4.4J	2nd floor, east stairwell
	Interior Frame to Concrete Caulking	WH-CBK-002	3.5J	2nd floor, west stairwell
Stairwell Doors (Type K)	Exterior Frame to Concrete Caulking	WH-CBK-006	1.5	6th floor, west stairwell
		DC1-1	3.58 J	1st Floor, East Door, Exterior
	Exterior Glazing	DC3-1	<2.86 UJ	1st Floor, West Door, Exterior
		DC2-1	<0.48 UJ	1st Floor, West Door, Exterior
Balcony Windows and Doors (Type B, C)	Exterior Frame to Concrete Caulking	DC2-1	<0.48 UJ	1st Floor, West Door, Exterior
		WH-CBK-034	7.4	Room 429, exterior
		WH-CBK-039	4.0	Room 324, exterior

Notes:

All samples extracted by Soxhlet Method 3540C and analyzed for PCBs by USEPA Method 8082.

l.f. = linear feet

J/UJ = Analytical results qualified as estimated "J/UJ" based on either exceedance of allowable temperature preservation or exceedance of allowable percent difference between sample column results. Additional information on data validation provided in Appendix A.

Table 2-2

**Summary of Adjacent Materials Characterization Sampling Results
Webster House
UMass Amherst**

Window Unit	Adjacent Material	Sample Location and Description	Samples		Total PCBs (mg/kg)
			Sample ID	Distance from Joint (inches)	
First Floor Storefront Windows and Doors (Caulking > 50 ppm)	Lower Concrete Foundation	NE elevation 3 ft west of vertical slate joint. Collected 5-6 inches below upper horizontal face on vertical face of foundation wall.	WH-CBC-016	5 below upper horizontal surface	0.14
	Stucco overhang ceiling	NE elevation 5-6 inches from caulked joint.	WH-CBC-020	5	<0.1
		NE Elevation 23-24 inches from caulked joint	WH-CBC-021	23	<0.1
	Concrete Ceiling	Northwest elevation	WH-CBC-026	1	<0.095
		West elevation (immediately south of West main entryway)	WH-CBC-028	1	<0.10
	Vertical Concrete Columns	West elevation (immediately south of West main entryway)	WH-CBC-030	1/4	<0.095
	Horizontal Slate Joints	Northeast Elevation	WH-CBC-018	1/4 below upper horizontal surface	<0.10
	Vertical Slate Joints	Northeast Elevation	WH-CBC-019	1/4	<0.1
		Southwest Elevation	WH-CBC-031	1/4	<0.1
Elevator Hall Windows (Caulking > 50 ppm)	Interior Concrete Wall Surfaces	Adjacent to vertical caulked joints of second floor window	WH-CBC-035	1	0.79
	Exterior Concrete Surfaces	Adjacent to right vertical caulked joint on second floor window above west side main entryway.	WH-CBC-008	1	<0.095
		Below lower horizontal caulked joint on second floor window above west side main entryway.	WH-CBC-010	1	0.18
Stairwell Windows (Caulking < 50 ppm)	Exterior Adjacent Materials	Sample collected from 1-2 inches from lower horizontal joint on 2nd floor window of east side stairwell.	WH-CBC-014	1	<0.095

Notes:

All samples extracted by Soxhlet Method 3540C and analyzed for PCBs by USEPA Method 8082.

Table 3-1

**Summary of Remedial Approach
Webster House
UMass Amherst**

Window	Building Materials - to be removed	Building Materials to remain	Characterization Sampling Summary	Verification Sampling Strategy		Remediation Plan
				Sample Frequency	Number of Samples	
First Floor Storefront Windows and Doors	Exterior Caulking (1,208 l.f.)		Four samples of exterior frame caulking collected from first floor windows. Total PCBs ranged from 25.63 to 326 ppm. Assume all ≥ 50 ppm PCBs.	N/A	N/A	Caulking removed for disposal as PCB Waste ≥ 50 ppm.
	Interior Caulking (15 l.f.)		None Collected, assume to contain ≥ 50 ppm PCBs based on physical appearance similar to exterior caulking.	N/A	N/A	
	Frames and Components (including glazing sealants)		Four samples of exterior glazing sealant collected from first floor windows. Total PCB concentrations ranged from non-detect (< 0.49 ppm) to 15.7 ppm.	N/A	N/A	Storefront window and door frames coated or in direct contact with ≥ 50 ppm PCB caulking (metal to masonry joints) to be disposed of as ≥ 50 ppm PCB wastes with caulking. Remaining portions of window frames and components, including glass, to be disposed of as < 50 ppm PCB waste based on results of first floor glass joint samples and integral sealants to window components.
		Lower Concrete Foundation (180 l.f.)	One characterization sample collected at a distance of 5 inches below upper horizontal face of concrete foundation. Analytical results reported PCBs at a concentration of 0.14 ppm.	50 l.f.	4	Remove caulking and window for disposal as described above; scrape residual caulking; collect verification samples at designated frequency. Results of verification samples evaluated as follows: > 1 ppm - encapsulation ⁽¹⁾ of concrete surfaces formerly in direct contact with the caulking, across the upper horizontal face of the foundation and to a distance of 5 inches down the vertical face (interior and exterior locations). ≤ 1 ppm, then NFA.
	Stucco Overhang Ceiling (165 l.f.)		One characterization sample collected at a distance of 5 inches and one collected at a distance of 23 inches from the caulked joint. Analytical results reported PCBs as non-detect (< 0.1 ppm) in both samples.	50 l.f.	4 - stucco materials 4 - overhead materials	Remove caulking and window for disposal as described above; remove stucco ceiling to a distance of 5 inches from the caulked joint for disposal as ≥ 50 ppm PCB waste. Collect verification samples at designated frequency. Results of verification samples evaluated as follows: > 1 ppm - additional ceiling/material removal and subsequent verification sampling to be conducted and / or encapsulated. ≤ 1 ppm, then NFA.
		Concrete Ceiling (430 l.f.)	Two characterization samples collected at a distance of 1 inch from the caulked joint. Analytical results reported PCBs as non-detect (< 0.095 and < 0.10 ppm).	50 l.f.	9	Remove caulking and window for disposal as described above; scrape residual caulking; collect verification samples at designated frequency. Results of verification samples evaluated as follows: > 1 ppm - encapsulation ⁽¹⁾ of concrete surfaces formerly in direct contact with the caulking, and to a distance of 1 inch from the caulked joint. ≤ 1 ppm, then NFA. If new frames are to extend to a distance ≥ 1 inch beyond existing frames, metal cladding may not be required to be installed on concrete surfaces.
		Vertical Concrete Columns (40 l.f.)	One characterization sample collected at a distance of 1/4-inch from the caulked joint. Analytical result reported PCBs as non-detect (< 0.095 ppm).	20 l.f.	2	Remove caulking and window for disposal as described above; scrape residual caulking; collect verification samples at designated frequency. Results of verification samples evaluated as follows: > 1 ppm - encapsulation ⁽¹⁾ of concrete surfaces formerly in direct contact with the caulking, and to a distance of 1 inch from the caulked joint. ≤ 1 ppm, then NFA. If new frames are to extend to a distance ≥ 1 inch beyond existing frames, metal cladding may not be installed on concrete surfaces.

Table 3-1

**Summary of Remedial Approach
Webster House
UMass Amherst**

Window	Building Materials - to be removed	Building Materials to remain	Characterization Sampling Summary	Verification Sampling Strategy		Remediation Plan
				Sample Frequency	Number of Samples	
First Floor Storefront Windows and Doors (con't)		Horizontal Slate Joints (397 l.f.)	One characterization sample collected at a distance of 1/4-inch below upper horizontal face of slate façade. Analytical results reported PCBs as non-detect (<0.10 ppm).	50 l.f.	8	Remove caulking and window for disposal as described above; scrape residual caulking; collect verification samples at designated frequency. Results of verification samples evaluated as follows: > 1 ppm - encapsulation ⁽¹⁾ of slate facade surfaces formerly in direct contact with the caulking, across the upper horizontal face of the facade and to a distance of 1 inch down the vertical face. ≤ 1 ppm, then NFA.
		Vertical Slate Joints (26 l.f.)	Two characterization samples collected from exterior locations at a distance of 1/4-inch from the caulked joint. Analytical results reported PCBs as non-detect (< 0.10 ppm) in both samples.	1 per joint - exterior 1 sample - interior	2 exterior 1 interior	Remove caulking and window for disposal as described above; scrape residual caulking; collect verification samples at designated frequency. Results of verification samples evaluated as follows: > 1 ppm - encapsulation ⁽¹⁾ of slate surfaces formerly in direct contact with the caulking, and to a distance of 1 inch from the caulked joint. ≤ 1 ppm, then NFA. If new frames are to extend to a distance ≥ 1 inch beyond existing frames, metal cladding may not be installed on slate surfaces.
Elevator Hall Windows	Interior Caulking (510 l.f./ 12 windows)		Two samples of interior caulking collected. Analytical results reported PCBs at concentrations of 296 ppm (frame to masonry joints) and 160,000 (metal to metal frame joints).	N/A	N/A	Caulking removed for disposal as PCB Waste ≥ 50 ppm.
	Frames and Components		One sample of interior glazing sealant collected. Analytical results reported PCBs at a concentration of 23 ppm.	N/A	N/A	Elevator Hall window frames and components coated or in direct contact with ≥ 50 ppm PCB caulking to be disposed of as ≥ 50 ppm PCB wastes with caulking. Remaining portions of window frames and components, including glass, to be disposed of as < 50 ppm PCB waste based on results of glass joint samples.
		Interior Wall Surfaces (432 l.f.)	One characterization sample collected at a distance of 1 inch from the caulked joint. Analytical results reported PCBs at a concentration of 0.79 ppm.	One per floor	6	Remove caulking and window for disposal as described above; scrape residual caulking; collect verification samples at designated frequency. Results of verification samples evaluated as follows: > 1 ppm - encapsulation ⁽¹⁾ of concrete surfaces formerly in direct contact with the caulking, and to a distance of 1 inch from the caulked joint. ≤ 1 ppm, then NFA.

Notes:

(1) Encapsulation to include the application of two coats in contrasting colors of liquid coating and the application of sheet metal cladding to designated distances from the caulked joints.

l.f. = linear feet

N/A - Not Applicable

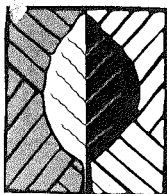
NFA - No Further Action



SCALE: AS NOTED	JOB NO.: 224189
DATE: MARCH 2011	FILE: Figure 1-1.cnv

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APPENDIX A: LABORATORY ANALYTICAL REPORTS & DATA VALIDATION SUMMARY



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Phone: 781-238-8880 • Fax: 781-238-8884

Engineers • Scientists • Planners

CLIENT: GALE PROJECT NO.: 4857 TITLE: WEBSTER			PCB ASBESTOS INSPECTION SAMPLE LOG / CHAIN OF CUSTODY 1 OF 2	
BUILDING NAME: WEBSTER			INSPECTOR: K. MENZIES SAMPLING DATE: 12/9/10	
Sample No. (Homogen. Mtl.- No.)	Location (Room)	Location (Item)	Description of Sample Material	Photo No.
DC1-1	1 st FL	EAST DOOR	FRAME CAULK	AN22130
DC2-1	"	WEST DOOR	GLASS CAULK	AN22131
DC3-1	"	WEST DOOR	EXT FRAME CAULK	AN22132
WC1-1	" SW	OPEN WINDOW	GLASS CAULK	AN22133
WC2-1	" NE	BOTTOM WINDOW FRAME	FRAME CAULK	AN22134
WC3-1	" E	FRAME-2 BACK NARROW WINDOW	FRAME CAULK	AN22135
WC4-1	" SW	OUTER WINDOW FRAME	FRAME CAULK	AN22136
WC5-1	" NE	OPEN WINDOW	GLASS CAULK	AN22137
WC6-1	" NE	OPEN WINDOW	GLASS CAULK	AN22138
WC7-1	" NE	WINDOW TOP	FRAME CAULK	AN22139
Comments:				

Analyses: PCM PLM TEM OTHER - PCB

Shipped to: NEA

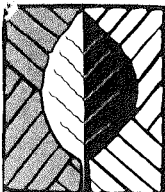
Shipped by: FED EX

Relinquished by: (Signature)

Received by Lab: (Signature)

Date/Time: 12/13/10

Date/Time:



Est. 1978

<10120149P2>



101201492

8 New England Executive Park • Burlington, MA 01803-5001
Phone: 781-238-8880 • Fax: 781-238-8884

Engineers • Scientists • Planners

CLIENT: GALE PROJECT NO.: 4857 TITLE: WEBSTER		PCB ASBESTOS INSPECTION SAMPLE LOG / CHAIN OF CUSTODY 2 OF 2		
BUILDING NAME: WEBSTER		INSPECTOR: K. MENZIES SAMPLING DATE: 12/9/10		
Sample No. (Homogen. Mtl.- No.)	Location (Room)	Location (Item)	Description of Sample Material	Photo No.
WC 8-1	1 st FL NEW	OPEN WINDOW	FRAME CAULK	AN22140
WC 9-1	1 st FL SW	WINDOW	GLASS CAULK	AN22141
WC 10-1	Rm 228	INT. WINDOW	FRAME CAULK	AN22142
WC 11-1	" "	EXT WINDOW	FRAME CAULK	AN22143
WC 12-1	Rm 733	FRAME → BRICK INT. WINDOW	FRAME CAULK	AN22144
WC 13-1	" "	FRAME → BRICK EXT WINDOW	FRAME CAULK	AN22145
WC 14-1	7 th FL. ELEV. HALL	INT. FRAME LG. WINDOW	FRAME CAULK	AN22146
WC 15-1	2 nd FL. (ALL FLOORS)	EXT OPEN WINDOW	GLASS CAULK	AN22147
WC 16-1	4 th FL Rm 428	EXT WINDOW FRAME → BRICK	FRAME CAULK	AN22148
WC 17-1	Rm 428	INT. WINDOW FRAME	FRAME CAULK	AN22149
Comments:				

Analyses: PCM PLM TEM OTHER - PCB

Shipped to: NEW

Shipped by: FED EX

Relinquished by: (Signature) *[Signature]*

Received by Lab: (Signature)

Date/Time: 12/13/10

Date/Time:

CHAIN OF CUSTODY RECORD

PAGE <10120149P3>

NORTHEAST ANALYTICAL, INC.

2190 Technology Drive, Schenectady, NY 12308
 Telephone (518) 346-4592 Fax (518) 381-6055
 www.nealab.com information@nealab.com

LRF #



101201493

(NEA USE ONLY)

DISPOSAL REQUIREMENTS: (To be filled in by Client)

- ☐ RETURN TO CLIENT
☒ DISPOSAL BY NORTHEAST ANALYTICAL
☐ ARCHIVAL BY NORTHEAST ANALYTICAL

Additional charges incurred for disposal (if hazardous) or archival. Call for details.

CLIENT (REPORTS TO BE SENT TO): PEER CONSULTANTS				PROJECT# / PROJECT NAME: 4857				ENTER ANALYSIS AND METHOD NUMBER REQUESTED																					
PROJECT MANAGER: KEN MENZIES				PROJECT LOCATION (CITY/STATE) ADDRESS: WEBSTER HOUSE				PRESERVATIVE CODE: 0		P		1		2		3		4		5		6		7		8		PRESERVATIVE KEY	
PHONE: 781 238 8880								BOTTLE TYPE:		P		1		2		3		4		5		6		7		8		0 - NONE	
SAMPLED BY: (Please Print) KEN MENZIES				REQUIRED TURN AROUND TIME: STD (A FEW FAST)				BOTTLE SIZE:		1		2		3		4		5		6		7		8		1 - HCL			
SAMPLING FIRM: PEER				NAME OF COURIER (IF USED): FED EX																						2 - HNO3			
ELECTRONIC RESULTS FORMAT: .PDF <input type="checkbox"/> EXCEL (.CSV) <input checked="" type="checkbox"/>				E-MAIL ADDRESS: MENZIESK@PEERCON.COM																								3 - H2SO4	
FAXED RESULTS <input type="checkbox"/>				FAX #:				GRAB/COMP																				4 - NaOH	
SAMPLE ID				DATE		TIME		MATRIX		LAB SAMPLE ID (NEA USE ONLY)																		5 - Zn. Acetate	
SEE ATTACHED																												6 - MeOH	
																												7 - NaHSO4	
																												8 - Other	



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3/3/2011
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CUSTOMER ID: DC1-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22130 **NEA LRF:** 10120149-01
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.484	ug/g	12/23/2010	U
Aroclor 1221	ND	0.484	ug/g	12/23/2010	U
Aroclor 1232	ND	0.484	ug/g	12/23/2010	U
Aroclor 1242	ND	0.484	ug/g	12/23/2010	U
Aroclor 1248	ND	0.484	ug/g	12/23/2010	U
Aroclor 1254	3.58	0.484	ug/g	12/23/2010	AF
Aroclor 1260	ND	0.484	ug/g	12/23/2010	U
Aroclor 1262	ND	0.484	ug/g	12/23/2010	U
Aroclor 1268	ND	0.484	ug/g	12/23/2010	U
Total PCB Amount > RL	3.58				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Client Services Manager
Robert E. Wagner
Laboratory Director



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CUSTOMER ID: DC2-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22131 **NEA LRF:** 10120149-02
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.483	ug/g	12/23/2010	U
Aroclor 1221	ND	0.483	ug/g	12/23/2010	U
Aroclor 1232	ND	0.483	ug/g	12/23/2010	U
Aroclor 1242	ND	0.483	ug/g	12/23/2010	U
Aroclor 1248	ND	0.483	ug/g	12/23/2010	U
Aroclor 1254	ND	0.483	ug/g	12/23/2010	U
Aroclor 1260	ND	0.483	ug/g	12/23/2010	U
Aroclor 1262	ND	0.483	ug/g	12/23/2010	U
Aroclor 1268	ND	0.483	ug/g	12/23/2010	U
Total PCB Amount > RL	ND				U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

Note: There were several non-target peaks.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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Client Services Manager
Robert E. Wagner
Laboratory Director

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CUSTOMER ID: DC3-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22132 **NEA LRF:** 10120149-03
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	2.86	ug/g	12/15/2010	U
Aroclor 1221	ND	2.86	ug/g	12/15/2010	U
Aroclor 1232	ND	2.86	ug/g	12/15/2010	U
Aroclor 1242	ND	2.86	ug/g	12/15/2010	U
Aroclor 1248	ND	2.86	ug/g	12/15/2010	U
Aroclor 1254	ND	2.86	ug/g	12/15/2010	U
Aroclor 1260	ND	2.86	ug/g	12/15/2010	U
Aroclor 1262	ND	2.86	ug/g	12/15/2010	U
Aroclor 1268	ND	2.86	ug/g	12/15/2010	U
Total PCB Amount > RL	ND				U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

Note: There were several non-target peaks.

Soxhlet Extraction EPA 3540 was performed on sample.

Note: Elevated Reporting Limit, sample was analyzed at dilution due to matrix interference.

AUTHORIZED SIGNATURE:

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CUSTOMER ID: WC1-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22133 **NEA LRF:** 10120149-04
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.491	ug/g	12/23/2010	U
Aroclor 1221	ND	0.491	ug/g	12/23/2010	U
Aroclor 1232	ND	0.491	ug/g	12/23/2010	U
Aroclor 1242	ND	0.491	ug/g	12/23/2010	U
Aroclor 1248	ND	0.491	ug/g	12/23/2010	U
Aroclor 1254	ND	0.491	ug/g	12/23/2010	U
Aroclor 1260	ND	0.491	ug/g	12/23/2010	U
Aroclor 1262	ND	0.491	ug/g	12/23/2010	U
Aroclor 1268	ND	0.491	ug/g	12/23/2010	U
Total PCB Amount > RL	ND				U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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CUSTOMER ID: WC2-1 **NEA ID:** AN22134 **NEA LRF:** 10120149-05
MATRIX: CAULK **DATE SAMPLED:** 12/09/2010 **TIME:** N/A
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES **PROJECT:** 4857
CUSTOMER PO: KEN MENZIES **LOCATION:**
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	2.40	ug/g	12/15/2010	U
Aroclor 1221	ND	2.40	ug/g	12/15/2010	U
Aroclor 1232	ND	2.40	ug/g	12/15/2010	U
Aroclor 1242	ND	2.40	ug/g	12/15/2010	U
Aroclor 1248	ND	2.40	ug/g	12/15/2010	U
Aroclor 1254	55.7	2.40	ug/g	12/15/2010	AF
Aroclor 1260	ND	2.40	ug/g	12/15/2010	U
Aroclor 1262	ND	2.40	ug/g	12/15/2010	U
Aroclor 1268	ND	2.40	ug/g	12/15/2010	U
Total PCB Amount > RL	55.7				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: There were several non-target peaks.

Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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CUSTOMER ID: WC3-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22135 **NEA LRF:** 10120149-06
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.465	ug/g	12/27/2010	U
Aroclor 1221	ND	0.465	ug/g	12/27/2010	U
Aroclor 1232	ND	0.465	ug/g	12/27/2010	U
Aroclor 1242	ND	0.465	ug/g	12/27/2010	U
Aroclor 1248	ND	0.465	ug/g	12/27/2010	U
Aroclor 1254	5.33	0.465	ug/g	12/27/2010	AF
Aroclor 1260	ND	0.465	ug/g	12/27/2010	U
Aroclor 1262	ND	0.465	ug/g	12/27/2010	U
Aroclor 1268	ND	0.465	ug/g	12/27/2010	U
Total PCB Amount > RL	5.33				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: There were several non-target peaks.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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CUSTOMER ID: WC4-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22136 **NEA LRF:** 10120149-07
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	1.48	ug/g	12/23/2010	U
Aroclor 1221	ND	1.48	ug/g	12/23/2010	U
Aroclor 1232	ND	1.48	ug/g	12/23/2010	U
Aroclor 1242	ND	1.48	ug/g	12/23/2010	U
Aroclor 1248	ND	1.48	ug/g	12/23/2010	U
Aroclor 1254	20.3	1.48	ug/g	12/23/2010	AF
Aroclor 1260	5.33	1.48	ug/g	12/23/2010	AG
Aroclor 1262	ND	1.48	ug/g	12/23/2010	U
Aroclor 1268	ND	1.48	ug/g	12/23/2010	U
Total PCB Amount > RL	25.63				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

AG-Aroclor 1260 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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CUSTOMER ID: WC5-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22137 **NEA LRF:** 10120149-08
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.469	ug/g	12/23/2010	U
Aroclor 1221	ND	0.469	ug/g	12/23/2010	U
Aroclor 1232	ND	0.469	ug/g	12/23/2010	U
Aroclor 1242	ND	0.469	ug/g	12/23/2010	U
Aroclor 1248	ND	0.469	ug/g	12/23/2010	U
Aroclor 1254	1.86	0.469	ug/g	12/23/2010	AF
Aroclor 1260	ND	0.469	ug/g	12/23/2010	U
Aroclor 1262	ND	0.469	ug/g	12/23/2010	U
Aroclor 1268	ND	0.469	ug/g	12/23/2010	U
Total PCB Amount > RL	1.86				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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CUSTOMER ID: WC6-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22138 **NEA LRF:** 10120149-09
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.667	ug/g	12/24/2010	U
Aroclor 1221	ND	0.667	ug/g	12/24/2010	U
Aroclor 1232	ND	0.667	ug/g	12/24/2010	U
Aroclor 1242	ND	0.667	ug/g	12/24/2010	U
Aroclor 1248	ND	0.667	ug/g	12/24/2010	U
Aroclor 1254	15.7	0.667	ug/g	12/24/2010	AF
Aroclor 1260	ND	0.667	ug/g	12/24/2010	U
Aroclor 1262	ND	0.667	ug/g	12/24/2010	U
Aroclor 1268	ND	0.667	ug/g	12/24/2010	U
Total PCB Amount > RL	15.7				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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CUSTOMER ID: WC7-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22139 **NEA LRF:** 10120149-10
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	9.68	ug/g	12/24/2010	U
Aroclor 1221	ND	9.68	ug/g	12/24/2010	U
Aroclor 1232	ND	9.68	ug/g	12/24/2010	U
Aroclor 1242	ND	9.68	ug/g	12/24/2010	U
Aroclor 1248	ND	9.68	ug/g	12/24/2010	U
Aroclor 1254	326	9.68	ug/g	12/24/2010	AF
Aroclor 1260	ND	9.68	ug/g	12/24/2010	U
Aroclor 1262	ND	9.68	ug/g	12/24/2010	U
Aroclor 1268	ND	9.68	ug/g	12/24/2010	U
Total PCB Amount > RL	326				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Client Services Manager
Robert E. Wagner
Laboratory Director



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CUSTOMER ID: WC8-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22140 **NEA LRF:** 10120149-11
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	1.97	ug/g	12/24/2010	U
Aroclor 1221	ND	1.97	ug/g	12/24/2010	U
Aroclor 1232	ND	1.97	ug/g	12/24/2010	U
Aroclor 1242	ND	1.97	ug/g	12/24/2010	U
Aroclor 1248	ND	1.97	ug/g	12/24/2010	U
Aroclor 1254	43.6	1.97	ug/g	12/24/2010	AF
Aroclor 1260	ND	1.97	ug/g	12/24/2010	U
Aroclor 1262	ND	1.97	ug/g	12/24/2010	U
Aroclor 1268	ND	1.97	ug/g	12/24/2010	U
Total PCB Amount > RL	43.6				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Client Services Manager
Robert E. Wagner
Laboratory Director



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CUSTOMER ID: WC9-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22141 **NEA LRF:** 10120149-12
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.488	ug/g	12/24/2010	U
Aroclor 1221	ND	0.488	ug/g	12/24/2010	U
Aroclor 1232	ND	0.488	ug/g	12/24/2010	U
Aroclor 1242	ND	0.488	ug/g	12/24/2010	U
Aroclor 1248	ND	0.488	ug/g	12/24/2010	U
Aroclor 1254	1.20	0.488	ug/g	12/24/2010	AF
Aroclor 1260	ND	0.488	ug/g	12/24/2010	U
Aroclor 1262	ND	0.488	ug/g	12/24/2010	U
Aroclor 1268	ND	0.488	ug/g	12/24/2010	U
Total PCB Amount > RL	1.20				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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Robert E. Wagner
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Phone: 518.346.4592
Fax: 518.381.6055**CUSTOMER ID:** WC10-1**MATRIX:** CAULK**DATE RECEIVED:** 12/14/2010 **TIME:** 10:45**SAMPLED BY:** K. MENZIES**CUSTOMER PO:** KEN MENZIES**NEA ID:** AN22142**NEA LRF:** 10120149-13**DATE SAMPLED:** 12/09/2010 **TIME:** N/A**PROJECT:** 4857**LOCATION:****LAB ELAP#:** 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.489	ug/g	12/24/2010	U
Aroclor 1221	ND	0.489	ug/g	12/24/2010	U
Aroclor 1232	ND	0.489	ug/g	12/24/2010	U
Aroclor 1242	ND	0.489	ug/g	12/24/2010	U
Aroclor 1248	2.72	0.489	ug/g	12/24/2010	PE
Aroclor 1254	6.06	0.489	ug/g	12/24/2010	AF
Aroclor 1260	ND	0.489	ug/g	12/24/2010	U
Aroclor 1262	ND	0.489	ug/g	12/24/2010	U
Aroclor 1268	ND	0.489	ug/g	12/24/2010	U
Total PCB Amount > RL	8.78				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

PE-Aroclor 1248 is being used to report an altered PCB pattern exhibited by the sample. Actual Aroclor 1248 is not present in the sample, but is reported to more accurately quantify PCB present in sample that has undergone environmental alteration.

Note: Soxhlet Extraction EPA 3540 was performed on sample.**AUTHORIZED SIGNATURE:**William A. Kotas
Client Services Manager
Robert E. Wagner
Laboratory Director



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CUSTOMER ID: WC11-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22143 **NEA LRF:** 10120149-14
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.495	ug/g	12/27/2010	U
Aroclor 1221	ND	0.495	ug/g	12/27/2010	U
Aroclor 1232	ND	0.495	ug/g	12/27/2010	U
Aroclor 1242	ND	0.495	ug/g	12/27/2010	U
Aroclor 1248	ND	0.495	ug/g	12/27/2010	U
Aroclor 1254	9.00	0.495	ug/g	12/27/2010	AF
Aroclor 1260	ND	0.495	ug/g	12/27/2010	U
Aroclor 1262	ND	0.495	ug/g	12/27/2010	U
Aroclor 1268	ND	0.495	ug/g	12/27/2010	U
Total PCB Amount > RL	9.00				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: There were several non-target peaks.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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Client Services Manager
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CUSTOMER ID: WC12-1 **NEA ID:** AN22144 **NEA LRF:** 10120149-15
MATRIX: CAULK **DATE SAMPLED:** 12/09/2010 **TIME:** N/A
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES **PROJECT:** 4857
CUSTOMER PO: KEN MENZIES **LOCATION:**
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.500	ug/g	12/24/2010	U
Aroclor 1221	ND	0.500	ug/g	12/24/2010	U
Aroclor 1232	ND	0.500	ug/g	12/24/2010	U
Aroclor 1242	ND	0.500	ug/g	12/24/2010	U
Aroclor 1248	ND	0.500	ug/g	12/24/2010	U
Aroclor 1254	6.17	0.500	ug/g	12/24/2010	AF
Aroclor 1260	ND	0.500	ug/g	12/24/2010	U
Aroclor 1262	ND	0.500	ug/g	12/24/2010	U
Aroclor 1268	ND	0.500	ug/g	12/24/2010	U
Total PCB Amount > RL	6.17				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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CUSTOMER ID: WC13-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22145 **NEA LRF:** 10120149-16
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.496	ug/g	12/15/2010	U
Aroclor 1221	ND	0.496	ug/g	12/15/2010	U
Aroclor 1232	ND	0.496	ug/g	12/15/2010	U
Aroclor 1242	ND	0.496	ug/g	12/15/2010	U
Aroclor 1248	ND	0.496	ug/g	12/15/2010	U
Aroclor 1254	16.8	0.496	ug/g	12/15/2010	AF
Aroclor 1260	ND	0.496	ug/g	12/15/2010	U
Aroclor 1262	ND	0.496	ug/g	12/15/2010	U
Aroclor 1268	ND	0.496	ug/g	12/15/2010	U
Total PCB Amount > RL	16.8				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: There were several non-target peaks.

Soxhlet Extraction EPA 3540 was performed on sample

AUTHORIZED SIGNATURE:

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Client Services Manager
Robert E. Wagner
Laboratory Director



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CUSTOMER ID: WC14-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22146 **NEA LRF:** 10120149-17
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	9.94	ug/g	12/24/2010	U
Aroclor 1221	ND	9.94	ug/g	12/24/2010	U
Aroclor 1232	ND	9.94	ug/g	12/24/2010	U
Aroclor 1242	ND	9.94	ug/g	12/24/2010	U
Aroclor 1248	ND	9.94	ug/g	12/24/2010	U
Aroclor 1254	296	9.94	ug/g	12/24/2010	AF
Aroclor 1260	ND	9.94	ug/g	12/24/2010	U
Aroclor 1262	ND	9.94	ug/g	12/24/2010	U
Aroclor 1268	ND	9.94	ug/g	12/24/2010	U
Total PCB Amount > RL	296				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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CUSTOMER ID: WC15-1 **NEA ID:** AN22147 **NEA LRF:** 10120149-18
MATRIX: CAULK **DATE SAMPLED:** 12/09/2010 **TIME:** N/A
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES **PROJECT:** 4857
CUSTOMER PO: KEN MENZIES **LOCATION:**
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.420	ug/g	12/16/2010	U
Aroclor 1221	ND	0.420	ug/g	12/16/2010	U
Aroclor 1232	ND	0.420	ug/g	12/16/2010	U
Aroclor 1242	ND	0.420	ug/g	12/16/2010	U
Aroclor 1248	ND	0.420	ug/g	12/16/2010	U
Aroclor 1254	ND	0.420	ug/g	12/16/2010	U
Aroclor 1260	ND	0.420	ug/g	12/16/2010	U
Aroclor 1262	ND	0.420	ug/g	12/16/2010	U
Aroclor 1268	ND	0.420	ug/g	12/16/2010	U
Total PCB Amount > RL	ND				U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

Soxhlet Extraction EPA 3540 was performed on sample

AUTHORIZED SIGNATURE:

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CUSTOMER ID: WC16-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22148 **NEA LRF:** 10120149-19
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.489	ug/g	12/27/2010	U
Aroclor 1221	ND	0.489	ug/g	12/27/2010	U
Aroclor 1232	ND	0.489	ug/g	12/27/2010	U
Aroclor 1242	ND	0.489	ug/g	12/27/2010	U
Aroclor 1248	ND	0.489	ug/g	12/27/2010	U
Aroclor 1254	8.52	0.489	ug/g	12/27/2010	AF
Aroclor 1260	ND	0.489	ug/g	12/27/2010	U
Aroclor 1262	ND	0.489	ug/g	12/27/2010	U
Aroclor 1268	ND	0.489	ug/g	12/27/2010	U
Total PCB Amount > RL	8.52				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: There were several non-target peaks.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

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Client Services Manager
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Laboratory Director



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CUSTOMER ID: WC17-1
MATRIX: CAULK
DATE RECEIVED: 12/14/2010 **TIME:** 10:45
SAMPLED BY: K. MENZIES
CUSTOMER PO: KEN MENZIES

NEA ID: AN22149 **NEA LRF:** 10120149-20
DATE SAMPLED: 12/09/2010 **TIME:** N/A
PROJECT: 4857
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.965	ug/g	12/24/2010	U
Aroclor 1221	ND	0.965	ug/g	12/24/2010	U
Aroclor 1232	ND	0.965	ug/g	12/24/2010	U
Aroclor 1242	ND	0.965	ug/g	12/24/2010	U
Aroclor 1248	ND	0.965	ug/g	12/24/2010	U
Aroclor 1254	28.4	0.965	ug/g	12/24/2010	AF
Aroclor 1260	ND	0.965	ug/g	12/24/2010	U
Aroclor 1262	ND	0.965	ug/g	12/24/2010	U
Aroclor 1268	ND	0.965	ug/g	12/24/2010	U
Total PCB Amount > RL	28.4				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

Note: Soxhlet Extraction EPA 3540 was performed on sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Client Services Manager
Robert E. Wagner
Laboratory Director

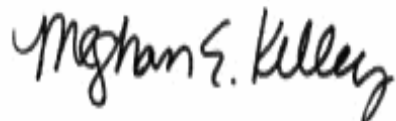
February 11, 2011

George Franklin
Woodard & Curran - Andover MA
35 New England Business Center
Andover, MA 01810

Project Location: Amherst, MA
Client Job Number:
Project Number: 0224189
Laboratory Work Order Number: 11B0020

Enclosed are results of analyses for samples received by the laboratory on February 2, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Meghan E. Kelley
Project Manager

Woodard & Curran - Andover MA
35 New England Business Center
Andover, MA 01810
ATTN: George Franklin

REPORT DATE: 2/11/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 0224189

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11B0020

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Amherst, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
WH-CBK-001	11B0020-01	Caulk		SW-846 8082	
WH-CBK-002	11B0020-02	Caulk		SW-846 8082	
WH-CBK-003	11B0020-03	Caulk		SW-846 8082	
WH-CBK-004	11B0020-04	Caulk		SW-846 8082	
WH-CBK-005	11B0020-05	Caulk		SW-846 8082	
WH-CBK-006	11B0020-06	Caulk		SW-846 8082	
WH-CBK-007	11B0020-07	Caulk		SW-846 8082	
WH-CBC-008	11B0020-08	Product/Solid		SW-846 8082	
WH-CBC-010	11B0020-09	Product/Solid		SW-846 8082	
WH-CBK-012	11B0020-10	Caulk		SW-846 8082	
WH-CBK-013	11B0020-11	Caulk		SW-846 8082	
WH-CBC-014	11B0020-12	Product/Solid		SW-846 8082	
WH-CBC-016	11B0020-13	Product/Solid		SW-846 8082	
WH-CBC-017	11B0020-14	Product/Solid		SW-846 8082	
WH-CBC-018	11B0020-15	Product/Solid		SW-846 8082	
WH-CBC-019	11B0020-16	Product/Solid		SW-846 8082	
WH-CBC-020	11B0020-17	Product/Solid		SW-846 8082	
WH-CBC-021	11B0020-18	Product/Solid		SW-846 8082	
WH-CBK-022	11B0020-19	Caulk		SW-846 8082	
WH-CBK-023	11B0020-20	Caulk		SW-846 8082	
WH-CBK-024	11B0020-21	Caulk		SW-846 8082	
WH-CBK-025	11B0020-22	Caulk		SW-846 8082	
WH-CBC-026	11B0020-23	Product/Solid		SW-846 8082	
WH-CBC-028	11B0020-24	Product/Solid		SW-846 8082	
WH-CBC-030	11B0020-25	Product/Solid		SW-846 8082	
WH-CBC-031	11B0020-26	Product/Solid		SW-846 8082	
WH-CBK-034	11B0020-27	Caulk		SW-846 8082	
WH-CBC-035	11B0020-28	Product/Solid		SW-846 8082	
WH-CBK-037	11B0020-29	Caulk		SW-846 8082	
WH-CBK-039	11B0020-30	Caulk		SW-846 8082	
WH-EB-01	11B0020-31	Water		SW-846 8082	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082

Qualifications:

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl, Decachlorobiphenyl [2C], Tetrachloro-m-xylene, Tetrachloro-m-xylene [2C]

11B0020-29[WH-CBK-037]

Surrogate recovery outside of control limits due to suspected sample matrix interference.

Analyte & Samples(s) Qualified:

Tetrachloro-m-xylene, Tetrachloro-m-xylene [2C]

11B0020-01[WH-CBK-001], 11B0020-02[WH-CBK-002], 11B0020-03[WH-CBK-003], 11B0020-04[WH-CBK-004], 11B0020-05[WH-CBK-005], 11B0020-06[WH-CBK-006], 11B0020-07[WH-CBK-007], 11B0020-10[WH-CBK-012], 11B0020-11[WH-CBK-013], 11B0020-19[WH-CBK-022], 11B0020-20[WH-CBK-023], 11B0020-21[WH-CBK-024], 11B0020-22[WH-CBK-025], 11B0020-27[WH-CBK-034], 11B0020-30[WH-CBK-039]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Daren J. Damboragian
Laboratory Manager

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-001

Sampled: 2/1/2011 08:25

Sample ID: 11B0020-01

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.92	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:43	PJG
Aroclor-1221 [1]	ND	0.92	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:43	PJG
Aroclor-1232 [1]	ND	0.92	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:43	PJG
Aroclor-1242 [1]	ND	0.92	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:43	PJG
Aroclor-1248 [1]	ND	0.92	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:43	PJG
Aroclor-1254 [2]	23	0.92	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:43	PJG
Aroclor-1260 [1]	ND	0.92	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:43	PJG
Aroclor-1262 [1]	ND	0.92	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:43	PJG
Aroclor-1268 [1]	ND	0.92	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:43	PJG
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	125	30-150							
Decachlorobiphenyl [2]	114	30-150							
Tetrachloro-m-xylene [1]	*	30-150	S-03						
Tetrachloro-m-xylene [2]	*	30-150	S-03						

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-002

Sampled: 2/1/2011 08:30

Sample ID: 11B0020-02

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:59	PJG
Aroclor-1221 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:59	PJG
Aroclor-1232 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:59	PJG
Aroclor-1242 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:59	PJG
Aroclor-1248 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:59	PJG
Aroclor-1254 [2]	3.5	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:59	PJG
Aroclor-1260 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:59	PJG
Aroclor-1262 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:59	PJG
Aroclor-1268 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 12:59	PJG
Surrogates	% Recovery	Recovery Limits			Flag				
Decachlorobiphenyl [1]	132	30-150						2/10/11 12:59	
Decachlorobiphenyl [2]	121	30-150						2/10/11 12:59	
Tetrachloro-m-xylene [1]	*	30-150			S-03			2/10/11 12:59	
Tetrachloro-m-xylene [2]	*	30-150			S-03			2/10/11 12:59	

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Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-003

Sampled: 2/1/2011 09:10

Sample ID: 11B0020-03

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.90	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:15	PJG
Aroclor-1221 [1]	ND	0.90	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:15	PJG
Aroclor-1232 [1]	ND	0.90	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:15	PJG
Aroclor-1242 [1]	ND	0.90	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:15	PJG
Aroclor-1248 [1]	ND	0.90	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:15	PJG
Aroclor-1254 [2]	7.2	0.90	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:15	PJG
Aroclor-1260 [1]	ND	0.90	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:15	PJG
Aroclor-1262 [1]	ND	0.90	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:15	PJG
Aroclor-1268 [1]	ND	0.90	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:15	PJG
Surrogates	% Recovery	Recovery Limits			Flag				
Decachlorobiphenyl [1]	123	30-150						2/10/11 13:15	
Decachlorobiphenyl [2]	113	30-150						2/10/11 13:15	
Tetrachloro-m-xylene [1]	*	30-150			S-03			2/10/11 13:15	
Tetrachloro-m-xylene [2]	*	30-150			S-03			2/10/11 13:15	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-004

Sampled: 2/1/2011 10:00

Sample ID: 11B0020-04

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:30	PJG
Aroclor-1221 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:30	PJG
Aroclor-1232 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:30	PJG
Aroclor-1242 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:30	PJG
Aroclor-1248 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:30	PJG
Aroclor-1254 [2]	5.2	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:30	PJG
Aroclor-1260 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:30	PJG
Aroclor-1262 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:30	PJG
Aroclor-1268 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 13:30	PJG
Surrogates	% Recovery	Recovery Limits			Flag				
Decachlorobiphenyl [1]	127	30-150						2/10/11 13:30	
Decachlorobiphenyl [2]	117	30-150						2/10/11 13:30	
Tetrachloro-m-xylene [1]	*	30-150			S-03			2/10/11 13:30	
Tetrachloro-m-xylene [2]	*	30-150			S-03			2/10/11 13:30	

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Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-005

Sampled: 2/1/2011 10:10

Sample ID: 11B0020-05

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:07	PJG
Aroclor-1221 [1]	ND	1.0	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:07	PJG
Aroclor-1232 [1]	ND	1.0	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:07	PJG
Aroclor-1242 [1]	ND	1.0	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:07	PJG
Aroclor-1248 [1]	ND	1.0	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:07	PJG
Aroclor-1254 [2]	2.3	1.0	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:07	PJG
Aroclor-1260 [1]	ND	1.0	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:07	PJG
Aroclor-1262 [1]	ND	1.0	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:07	PJG
Aroclor-1268 [1]	ND	1.0	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:07	PJG
Surrogates	% Recovery	Recovery Limits			Flag				
Decachlorobiphenyl [1]	111	30-150						2/10/11 20:07	
Decachlorobiphenyl [2]	104	30-150						2/10/11 20:07	
Tetrachloro-m-xylene [1]	*	30-150			S-03			2/10/11 20:07	
Tetrachloro-m-xylene [2]	*	30-150			S-03			2/10/11 20:07	

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Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-006

Sampled: 2/1/2011 11:25

Sample ID: 11B0020-06

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.88	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:22	PJG
Aroclor-1221 [1]	ND	0.88	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:22	PJG
Aroclor-1232 [1]	ND	0.88	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:22	PJG
Aroclor-1242 [1]	ND	0.88	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:22	PJG
Aroclor-1248 [1]	ND	0.88	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:22	PJG
Aroclor-1254 [2]	1.5	0.88	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:22	PJG
Aroclor-1260 [1]	ND	0.88	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:22	PJG
Aroclor-1262 [1]	ND	0.88	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:22	PJG
Aroclor-1268 [1]	ND	0.88	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:22	PJG
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	123	30-150							
Decachlorobiphenyl [2]	115	30-150							
Tetrachloro-m-xylene [1]	*	30-150	S-03						
Tetrachloro-m-xylene [2]	*	30-150	S-03						

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-007

Sampled: 2/1/2011 10:09

Sample ID: 11B0020-07

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:38	PJG
Aroclor-1221 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:38	PJG
Aroclor-1232 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:38	PJG
Aroclor-1242 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:38	PJG
Aroclor-1248 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:38	PJG
Aroclor-1254 [2]	7.2	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:38	PJG
Aroclor-1260 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:38	PJG
Aroclor-1262 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:38	PJG
Aroclor-1268 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:38	PJG
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	121	30-150						2/10/11 20:38	
Decachlorobiphenyl [2]	113	30-150						2/10/11 20:38	
Tetrachloro-m-xylene [1]	*	30-150			S-03			2/10/11 20:38	
Tetrachloro-m-xylene [2]	*	30-150			S-03			2/10/11 20:38	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-008

Sampled: 2/1/2011 10:30

Sample ID: 11B0020-08

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:25	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:25	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:25	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:25	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:25	JMB
Aroclor-1254 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:25	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:25	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:25	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:25	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	103	30-150						2/5/11 2:25	
Decachlorobiphenyl [2]	123	30-150						2/5/11 2:25	
Tetrachloro-m-xylene [1]	104	30-150						2/5/11 2:25	
Tetrachloro-m-xylene [2]	106	30-150						2/5/11 2:25	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-010

Sampled: 2/1/2011 10:40

Sample ID: 11B0020-09

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:40	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:40	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:40	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:40	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:40	JMB
Aroclor-1254 [2]	0.18	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:40	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:40	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:40	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:40	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	121	30-150							
Decachlorobiphenyl [2]	148	30-150							
Tetrachloro-m-xylene [1]	135	30-150							
Tetrachloro-m-xylene [2]	138	30-150							

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-012

Sampled: 2/1/2011 10:50

Sample ID: 11B0020-10

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:53	PJG
Aroclor-1221 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:53	PJG
Aroclor-1232 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:53	PJG
Aroclor-1242 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:53	PJG
Aroclor-1248 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:53	PJG
Aroclor-1254 [2]	4.3	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:53	PJG
Aroclor-1260 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:53	PJG
Aroclor-1262 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:53	PJG
Aroclor-1268 [1]	ND	0.95	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 20:53	PJG
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	126	30-150							
Decachlorobiphenyl [2]	117	30-150							
Tetrachloro-m-xylene [1]	*	30-150	S-03						
Tetrachloro-m-xylene [2]	*	30-150	S-03						

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Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-013

Sampled: 2/1/2011 12:00

Sample ID: 11B0020-11

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:09	PJG
Aroclor-1221 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:09	PJG
Aroclor-1232 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:09	PJG
Aroclor-1242 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:09	PJG
Aroclor-1248 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:09	PJG
Aroclor-1254 [2]	4.4	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:09	PJG
Aroclor-1260 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:09	PJG
Aroclor-1262 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:09	PJG
Aroclor-1268 [1]	ND	0.98	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:09	PJG
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	129	30-150							
Decachlorobiphenyl [2]	120	30-150							
Tetrachloro-m-xylene [1]	*	30-150	S-03						
Tetrachloro-m-xylene [2]	*	30-150	S-03						

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-014

Sampled: 2/1/2011 12:05

Sample ID: 11B0020-12

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:55	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:55	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:55	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:55	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:55	JMB
Aroclor-1254 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:55	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:55	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:55	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 2:55	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	105	30-150						2/5/11 2:55	
Decachlorobiphenyl [2]	122	30-150						2/5/11 2:55	
Tetrachloro-m-xylene [1]	106	30-150						2/5/11 2:55	
Tetrachloro-m-xylene [2]	106	30-150						2/5/11 2:55	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-016

Sampled: 2/1/2011 11:40

Sample ID: 11B0020-13

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:09	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:09	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:09	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:09	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:09	JMB
Aroclor-1254 [2]	0.14	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:09	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:09	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:09	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:09	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	105	30-150						2/5/11 3:09	
Decachlorobiphenyl [2]	124	30-150						2/5/11 3:09	
Tetrachloro-m-xylene [1]	109	30-150						2/5/11 3:09	
Tetrachloro-m-xylene [2]	110	30-150						2/5/11 3:09	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-017

Sampled: 2/1/2011 11:40

Sample ID: 11B0020-14

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:23	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:23	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:23	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:23	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:23	JMB
Aroclor-1254 [2]	0.14	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:23	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:23	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:23	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 3:23	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	105	30-150							
Decachlorobiphenyl [2]	125	30-150							
Tetrachloro-m-xylene [1]	106	30-150							
Tetrachloro-m-xylene [2]	107	30-150							

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-018

Sampled: 2/1/2011 12:20

Sample ID: 11B0020-15

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:21	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:21	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:21	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:21	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:21	JMB
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:21	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:21	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:21	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:21	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	106	30-150						2/5/11 4:21	
Decachlorobiphenyl [2]	125	30-150						2/5/11 4:21	
Tetrachloro-m-xylene [1]	109	30-150						2/5/11 4:21	
Tetrachloro-m-xylene [2]	109	30-150						2/5/11 4:21	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-019

Sampled: 2/1/2011 12:25

Sample ID: 11B0020-16

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:36	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:36	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:36	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:36	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:36	JMB
Aroclor-1254 [2]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:36	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:36	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:36	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:36	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	106	30-150						2/5/11 4:36	
Decachlorobiphenyl [2]	125	30-150						2/5/11 4:36	
Tetrachloro-m-xylene [1]	108	30-150						2/5/11 4:36	
Tetrachloro-m-xylene [2]	108	30-150						2/5/11 4:36	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-020

Sampled: 2/1/2011 12:40

Sample ID: 11B0020-17

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:50	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:50	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:50	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:50	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:50	JMB
Aroclor-1254 [2]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:50	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:50	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:50	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 4:50	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	104	30-150						2/5/11 4:50	
Decachlorobiphenyl [2]	124	30-150						2/5/11 4:50	
Tetrachloro-m-xylene [1]	106	30-150						2/5/11 4:50	
Tetrachloro-m-xylene [2]	106	30-150						2/5/11 4:50	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-021

Sampled: 2/1/2011 12:45

Sample ID: 11B0020-18

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:04	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:04	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:04	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:04	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:04	JMB
Aroclor-1254 [2]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:04	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:04	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:04	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:04	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	106	30-150						2/5/11 5:04	
Decachlorobiphenyl [2]	125	30-150						2/5/11 5:04	
Tetrachloro-m-xylene [1]	103	30-150						2/5/11 5:04	
Tetrachloro-m-xylene [2]	105	30-150						2/5/11 5:04	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-022

Sampled: 2/1/2011 12:25

Sample ID: 11B0020-19

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.83	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:24	PJG
Aroclor-1221 [1]	ND	0.83	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:24	PJG
Aroclor-1232 [1]	ND	0.83	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:24	PJG
Aroclor-1242 [1]	ND	0.83	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:24	PJG
Aroclor-1248 [1]	ND	0.83	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:24	PJG
Aroclor-1254 [2]	13	0.83	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:24	PJG
Aroclor-1260 [1]	ND	0.83	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:24	PJG
Aroclor-1262 [1]	ND	0.83	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:24	PJG
Aroclor-1268 [1]	ND	0.83	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:24	PJG
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	118	30-150							
Decachlorobiphenyl [2]	111	30-150							
Tetrachloro-m-xylene [1]	*	30-150	S-03						
Tetrachloro-m-xylene [2]	*	30-150	S-03						

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-023

Sampled: 2/1/2011 12:30

Sample ID: 11B0020-20

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.7	mg/Kg	10		SW-846 8082	2/2/11	2/11/11 9:35	PJG
Aroclor-1221 [1]	ND	1.7	mg/Kg	10		SW-846 8082	2/2/11	2/11/11 9:35	PJG
Aroclor-1232 [1]	ND	1.7	mg/Kg	10		SW-846 8082	2/2/11	2/11/11 9:35	PJG
Aroclor-1242 [1]	ND	1.7	mg/Kg	10		SW-846 8082	2/2/11	2/11/11 9:35	PJG
Aroclor-1248 [1]	ND	1.7	mg/Kg	10		SW-846 8082	2/2/11	2/11/11 9:35	PJG
Aroclor-1254 [2]	29	1.7	mg/Kg	10		SW-846 8082	2/2/11	2/11/11 9:35	PJG
Aroclor-1260 [1]	ND	1.7	mg/Kg	10		SW-846 8082	2/2/11	2/11/11 9:35	PJG
Aroclor-1262 [1]	ND	1.7	mg/Kg	10		SW-846 8082	2/2/11	2/11/11 9:35	PJG
Aroclor-1268 [1]	ND	1.7	mg/Kg	10		SW-846 8082	2/2/11	2/11/11 9:35	PJG
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	120	30-150						2/11/11 9:35	
Decachlorobiphenyl [2]	108	30-150						2/11/11 9:35	
Tetrachloro-m-xylene [1]	*	30-150			S-03			2/11/11 9:35	
Tetrachloro-m-xylene [2]	*	30-150			S-03			2/11/11 9:35	

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Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-024

Sampled: 2/1/2011 13:05

Sample ID: 11B0020-21

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:55	PJG
Aroclor-1221 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:55	PJG
Aroclor-1232 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:55	PJG
Aroclor-1242 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:55	PJG
Aroclor-1248 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:55	PJG
Aroclor-1254 [2]	21	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:55	PJG
Aroclor-1260 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:55	PJG
Aroclor-1262 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:55	PJG
Aroclor-1268 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 21:55	PJG
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	124	30-150							
Decachlorobiphenyl [2]	116	30-150							
Tetrachloro-m-xylene [1]	*	30-150	S-03						
Tetrachloro-m-xylene [2]	*	30-150	S-03						

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-025

Sampled: 2/1/2011 13:24

Sample ID: 11B0020-22

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:11	PJG
Aroclor-1221 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:11	PJG
Aroclor-1232 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:11	PJG
Aroclor-1242 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:11	PJG
Aroclor-1248 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:11	PJG
Aroclor-1254 [2]	9.2	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:11	PJG
Aroclor-1260 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:11	PJG
Aroclor-1262 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:11	PJG
Aroclor-1268 [1]	ND	0.94	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:11	PJG
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	110	30-150							
Decachlorobiphenyl [2]	101	30-150							
Tetrachloro-m-xylene [1]	*	30-150	S-03						
Tetrachloro-m-xylene [2]	*	30-150	S-03						

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-026

Sampled: 2/1/2011 13:50

Sample ID: 11B0020-23

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:19	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:19	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:19	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:19	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:19	JMB
Aroclor-1254 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:19	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:19	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:19	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:19	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	101	30-150							
Decachlorobiphenyl [2]	120	30-150							
Tetrachloro-m-xylene [1]	109	30-150							
Tetrachloro-m-xylene [2]	109	30-150							

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-028

Sampled: 2/1/2011 14:30

Sample ID: 11B0020-24

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:33	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:33	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:33	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:33	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:33	JMB
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:33	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:33	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:33	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:33	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	105	30-150						2/5/11 5:33	
Decachlorobiphenyl [2]	125	30-150						2/5/11 5:33	
Tetrachloro-m-xylene [1]	107	30-150						2/5/11 5:33	
Tetrachloro-m-xylene [2]	107	30-150						2/5/11 5:33	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-030

Sampled: 2/1/2011 14:50

Sample ID: 11B0020-25

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:48	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:48	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:48	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:48	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:48	JMB
Aroclor-1254 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:48	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:48	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:48	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 5:48	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	103	30-150						2/5/11 5:48	
Decachlorobiphenyl [2]	123	30-150						2/5/11 5:48	
Tetrachloro-m-xylene [1]	106	30-150						2/5/11 5:48	
Tetrachloro-m-xylene [2]	106	30-150						2/5/11 5:48	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-031

Sampled: 2/1/2011 15:05

Sample ID: 11B0020-26

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:02	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:02	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:02	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:02	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:02	JMB
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:02	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:02	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:02	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:02	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	105	30-150						2/5/11 6:02	
Decachlorobiphenyl [2]	125	30-150						2/5/11 6:02	
Tetrachloro-m-xylene [1]	107	30-150						2/5/11 6:02	
Tetrachloro-m-xylene [2]	108	30-150						2/5/11 6:02	

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Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-034

Sampled: 2/1/2011 15:30

Sample ID: 11B0020-27

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.96	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:26	PJG
Aroclor-1221 [1]	ND	0.96	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:26	PJG
Aroclor-1232 [1]	ND	0.96	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:26	PJG
Aroclor-1242 [1]	ND	0.96	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:26	PJG
Aroclor-1248 [1]	ND	0.96	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:26	PJG
Aroclor-1254 [2]	7.4	0.96	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:26	PJG
Aroclor-1260 [1]	ND	0.96	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:26	PJG
Aroclor-1262 [1]	ND	0.96	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:26	PJG
Aroclor-1268 [1]	ND	0.96	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:26	PJG
Surrogates	% Recovery	Recovery Limits			Flag				
Decachlorobiphenyl [1]	122	30-150						2/10/11 22:26	
Decachlorobiphenyl [2]	112	30-150						2/10/11 22:26	
Tetrachloro-m-xylene [1]	*	30-150			S-03			2/10/11 22:26	
Tetrachloro-m-xylene [2]	*	30-150			S-03			2/10/11 22:26	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBC-035

Sampled: 2/1/2011 15:45

Sample ID: 11B0020-28

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:17	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:17	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:17	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:17	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:17	JMB
Aroclor-1254 [1]	0.79	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:17	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:17	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:17	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/2/11	2/5/11 6:17	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	105	30-150							
Decachlorobiphenyl [2]	126	30-150							
Tetrachloro-m-xylene [1]	112	30-150							
Tetrachloro-m-xylene [2]	114	30-150							

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-037

Sampled: 2/1/2011 15:50

Sample ID: 11B0020-29

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8800	mg/Kg	50000		SW-846 8082	2/2/11	2/8/11 14:48	PJG
Aroclor-1221 [1]	ND	8800	mg/Kg	50000		SW-846 8082	2/2/11	2/8/11 14:48	PJG
Aroclor-1232 [1]	ND	8800	mg/Kg	50000		SW-846 8082	2/2/11	2/8/11 14:48	PJG
Aroclor-1242 [1]	ND	8800	mg/Kg	50000		SW-846 8082	2/2/11	2/8/11 14:48	PJG
Aroclor-1248 [1]	ND	8800	mg/Kg	50000		SW-846 8082	2/2/11	2/8/11 14:48	PJG
Aroclor-1254 [2]	160000	8800	mg/Kg	50000		SW-846 8082	2/2/11	2/8/11 14:48	PJG
Aroclor-1260 [1]	ND	8800	mg/Kg	50000		SW-846 8082	2/2/11	2/8/11 14:48	PJG
Aroclor-1262 [1]	ND	8800	mg/Kg	50000		SW-846 8082	2/2/11	2/8/11 14:48	PJG
Aroclor-1268 [1]	ND	8800	mg/Kg	50000		SW-846 8082	2/2/11	2/8/11 14:48	PJG
Surrogates	% Recovery	Recovery Limits			Flag				
Decachlorobiphenyl [1]	*	30-150			S-01			2/8/11 14:48	
Decachlorobiphenyl [2]	*	30-150			S-01			2/8/11 14:48	
Tetrachloro-m-xylene [1]	*	30-150			S-01			2/8/11 14:48	
Tetrachloro-m-xylene [2]	*	30-150			S-01			2/8/11 14:48	

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Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-CBK-039

Sampled: 2/1/2011 16:30

Sample ID: 11B0020-30

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.89	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:42	PJG
Aroclor-1221 [1]	ND	0.89	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:42	PJG
Aroclor-1232 [1]	ND	0.89	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:42	PJG
Aroclor-1242 [1]	ND	0.89	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:42	PJG
Aroclor-1248 [1]	ND	0.89	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:42	PJG
Aroclor-1254 [2]	4.0	0.89	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:42	PJG
Aroclor-1260 [1]	ND	0.89	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:42	PJG
Aroclor-1262 [1]	ND	0.89	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:42	PJG
Aroclor-1268 [1]	ND	0.89	mg/Kg	5		SW-846 8082	2/2/11	2/10/11 22:42	PJG
Surrogates	% Recovery	Recovery Limits			Flag				
Decachlorobiphenyl [1]	117	30-150						2/10/11 22:42	
Decachlorobiphenyl [2]	107	30-150						2/10/11 22:42	
Tetrachloro-m-xylene [1]	*	30-150			S-03			2/10/11 22:42	
Tetrachloro-m-xylene [2]	*	30-150			S-03			2/10/11 22:42	

Project Location: Amherst, MA

Sample Description:

Work Order: 11B0020

Date Received: 2/2/2011

Field Sample #: WH-EB-01

Sampled: 2/1/2011 17:45

Sample ID: 11B0020-31

Sample Matrix: Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082	2/7/11	2/8/11 10:19	JMB
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082	2/7/11	2/8/11 10:19	JMB
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082	2/7/11	2/8/11 10:19	JMB
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082	2/7/11	2/8/11 10:19	JMB
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082	2/7/11	2/8/11 10:19	JMB
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082	2/7/11	2/8/11 10:19	JMB
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082	2/7/11	2/8/11 10:19	JMB
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082	2/7/11	2/8/11 10:19	JMB
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082	2/7/11	2/8/11 10:19	JMB
Surrogates	% Recovery	Recovery Limits	Flag						
Decachlorobiphenyl [1]	65.0	30-150							
Decachlorobiphenyl [2]	64.9	30-150							
Tetrachloro-m-xylene [1]	78.3	30-150							
Tetrachloro-m-xylene [2]	80.1	30-150							

Sample Extraction Data**Prep Method: SW-846 3540C-SW-846 8082**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11B0020-01 [WH-CBK-001]	B025588	0.543	10.0	02/02/11
11B0020-02 [WH-CBK-002]	B025588	0.525	10.0	02/02/11
11B0020-03 [WH-CBK-003]	B025588	0.555	10.0	02/02/11
11B0020-04 [WH-CBK-004]	B025588	0.512	10.0	02/02/11
11B0020-05 [WH-CBK-005]	B025588	0.502	10.0	02/02/11
11B0020-06 [WH-CBK-006]	B025588	0.566	10.0	02/02/11
11B0020-07 [WH-CBK-007]	B025588	0.526	10.0	02/02/11
11B0020-10 [WH-CBK-012]	B025588	0.529	10.0	02/02/11
11B0020-11 [WH-CBK-013]	B025588	0.508	10.0	02/02/11
11B0020-19 [WH-CBK-022]	B025588	0.599	10.0	02/02/11
11B0020-20 [WH-CBK-023]	B025588	0.582	10.0	02/02/11
11B0020-21 [WH-CBK-024]	B025588	0.534	10.0	02/02/11
11B0020-22 [WH-CBK-025]	B025588	0.531	10.0	02/02/11
11B0020-27 [WH-CBK-034]	B025588	0.523	10.0	02/02/11
11B0020-29 [WH-CBK-037]	B025588	0.566	10.0	02/02/11
11B0020-30 [WH-CBK-039]	B025588	0.559	10.0	02/02/11

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11B0020-08 [WH-CBC-008]	B025587	2.10	10.0	02/02/11
11B0020-09 [WH-CBC-010]	B025587	2.00	10.0	02/02/11
11B0020-12 [WH-CBC-014]	B025587	2.10	10.0	02/02/11
11B0020-13 [WH-CBC-016]	B025587	2.10	10.0	02/02/11
11B0020-14 [WH-CBC-017]	B025587	2.10	10.0	02/02/11
11B0020-15 [WH-CBC-018]	B025587	2.00	10.0	02/02/11
11B0020-16 [WH-CBC-019]	B025587	2.00	10.0	02/02/11
11B0020-17 [WH-CBC-020]	B025587	2.00	10.0	02/02/11
11B0020-18 [WH-CBC-021]	B025587	2.00	10.0	02/02/11
11B0020-23 [WH-CBC-026]	B025587	2.10	10.0	02/02/11
11B0020-24 [WH-CBC-028]	B025587	2.00	10.0	02/02/11
11B0020-25 [WH-CBC-030]	B025587	2.10	10.0	02/02/11
11B0020-26 [WH-CBC-031]	B025587	2.00	10.0	02/02/11
11B0020-28 [WH-CBC-035]	B025587	2.00	10.0	02/02/11

Prep Method: SW-846 3510C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
11B0020-31 [WH-EB-01]	B025702	1000	10.0	02/07/11

QUALITY CONTROL
Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B025587 - SW-846 3540C
Blank (B025587-BLK1)

Prepared: 02/02/11 Analyzed: 02/05/11

Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	0.976		mg/Kg	1.00		97.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.16		mg/Kg	1.00		116	30-150			
Surrogate: Tetrachloro-m-xylene	1.06		mg/Kg	1.00		106	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.08		mg/Kg	1.00		108	30-150			

LCS (B025587-BS1)

Prepared: 02/02/11 Analyzed: 02/05/11

Aroclor-1016	0.30	0.10	mg/Kg	0.250		119	40-140			
Aroclor-1016 [2C]	0.30	0.10	mg/Kg	0.250		118	40-140			
Aroclor-1260	0.30	0.10	mg/Kg	0.250		119	40-140			
Aroclor-1260 [2C]	0.30	0.10	mg/Kg	0.250		121	40-140			
Surrogate: Decachlorobiphenyl	0.983		mg/Kg	1.00		98.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.17		mg/Kg	1.00		117	30-150			
Surrogate: Tetrachloro-m-xylene	1.08		mg/Kg	1.00		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.12		mg/Kg	1.00		112	30-150			

LCS Dup (B025587-BSD1)

Prepared: 02/02/11 Analyzed: 02/05/11

Aroclor-1016	0.31	0.10	mg/Kg	0.250		124	40-140	4.37	30	
Aroclor-1016 [2C]	0.30	0.10	mg/Kg	0.250		120	40-140	1.16	30	
Aroclor-1260	0.30	0.10	mg/Kg	0.250		121	40-140	1.53	30	
Aroclor-1260 [2C]	0.31	0.10	mg/Kg	0.250		123	40-140	1.40	30	
Surrogate: Decachlorobiphenyl	0.981		mg/Kg	1.00		98.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.17		mg/Kg	1.00		117	30-150			
Surrogate: Tetrachloro-m-xylene	1.09		mg/Kg	1.00		109	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.12		mg/Kg	1.00		112	30-150			

QUALITY CONTROL
Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B025587 - SW-846 3540C
Matrix Spike (B025587-MS1)
Source: 11B0020-08

Prepared: 02/02/11 Analyzed: 02/05/11

Aroclor-1016	0.23	0.095	mg/Kg	0.238	0.0	95.1	40-140			
Aroclor-1016 [2C]	0.21	0.095	mg/Kg	0.238	0.0	88.9	40-140			
Aroclor-1260	0.24	0.095	mg/Kg	0.238	0.0	98.9	40-140			
Aroclor-1260 [2C]	0.25	0.095	mg/Kg	0.238	0.0	103	40-140			
Surrogate: Decachlorobiphenyl	0.753		mg/Kg	0.952		79.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.904		mg/Kg	0.952		94.9	30-150			
Surrogate: Tetrachloro-m-xylene	0.627		mg/Kg	0.952		65.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.643		mg/Kg	0.952		67.6	30-150			

Matrix Spike Dup (B025587-MSD1)
Source: 11B0020-08

Prepared: 02/02/11 Analyzed: 02/05/11

Aroclor-1016	0.31	0.10	mg/Kg	0.250	0.0	124	40-140	30.9	50	
Aroclor-1016 [2C]	0.30	0.10	mg/Kg	0.250	0.0	120	40-140	34.9	50	
Aroclor-1260	0.30	0.10	mg/Kg	0.250	0.0	120	40-140	24.5	50	
Aroclor-1260 [2C]	0.32	0.10	mg/Kg	0.250	0.0	130	40-140	27.7	50	
Surrogate: Decachlorobiphenyl	0.986		mg/Kg	1.00		98.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.20		mg/Kg	1.00		120	30-150			
Surrogate: Tetrachloro-m-xylene	1.13		mg/Kg	1.00		113	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.16		mg/Kg	1.00		116	30-150			

Batch B025588 - SW-846 3540C
Blank (B025588-BLK1)

Prepared: 02/02/11 Analyzed: 02/08/11

Aroclor-1016	ND	0.20	mg/Kg							
Aroclor-1016 [2C]	ND	0.20	mg/Kg							
Aroclor-1221	ND	0.20	mg/Kg							
Aroclor-1221 [2C]	ND	0.20	mg/Kg							
Aroclor-1232	ND	0.20	mg/Kg							
Aroclor-1232 [2C]	ND	0.20	mg/Kg							
Aroclor-1242	ND	0.20	mg/Kg							
Aroclor-1242 [2C]	ND	0.20	mg/Kg							
Aroclor-1248	ND	0.20	mg/Kg							
Aroclor-1248 [2C]	ND	0.20	mg/Kg							
Aroclor-1254	ND	0.20	mg/Kg							
Aroclor-1254 [2C]	ND	0.20	mg/Kg							
Aroclor-1260	ND	0.20	mg/Kg							
Aroclor-1260 [2C]	ND	0.20	mg/Kg							
Aroclor-1262	ND	0.20	mg/Kg							
Aroclor-1262 [2C]	ND	0.20	mg/Kg							
Aroclor-1268	ND	0.20	mg/Kg							
Aroclor-1268 [2C]	ND	0.20	mg/Kg							
Surrogate: Decachlorobiphenyl	3.81		mg/Kg	4.00		95.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	4.23		mg/Kg	4.00		106	30-150			
Surrogate: Tetrachloro-m-xylene	4.13		mg/Kg	4.00		103	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	4.16		mg/Kg	4.00		104	30-150			

QUALITY CONTROL
Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B025588 - SW-846 3540C
LCS (B025588-BS1)

Prepared: 02/02/11 Analyzed: 02/08/11

Aroclor-1016	1.3	0.20	mg/Kg	1.00		133	40-140			
Aroclor-1016 [2C]	1.2	0.20	mg/Kg	1.00		124	40-140			
Aroclor-1260	1.3	0.20	mg/Kg	1.00		132	40-140			
Aroclor-1260 [2C]	1.4	0.20	mg/Kg	1.00		137	40-140			
Surrogate: Decachlorobiphenyl	4.71		mg/Kg	4.00		118	30-150			
Surrogate: Decachlorobiphenyl [2C]	5.23		mg/Kg	4.00		131	30-150			
Surrogate: Tetrachloro-m-xylene	4.99		mg/Kg	4.00		125	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	5.09		mg/Kg	4.00		127	30-150			

LCS Dup (B025588-BSD1)

Prepared: 02/02/11 Analyzed: 02/08/11

Aroclor-1016	1.3	0.20	mg/Kg	1.00		130	40-140	2.36	30	
Aroclor-1016 [2C]	1.3	0.20	mg/Kg	1.00		132	40-140	5.66	30	
Aroclor-1260	1.3	0.20	mg/Kg	1.00		132	40-140	0.293	30	
Aroclor-1260 [2C]	1.3	0.20	mg/Kg	1.00		134	40-140	2.16	30	
Surrogate: Decachlorobiphenyl	4.53		mg/Kg	4.00		113	30-150			
Surrogate: Decachlorobiphenyl [2C]	5.04		mg/Kg	4.00		126	30-150			
Surrogate: Tetrachloro-m-xylene	4.85		mg/Kg	4.00		121	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	4.97		mg/Kg	4.00		124	30-150			

Batch B025702 - SW-846 3510C
Blank (B025702-BLK1)

Prepared: 02/07/11 Analyzed: 02/08/11

Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	2.18		µg/L	2.00		109	30-150			
Surrogate: Decachlorobiphenyl [2C]	2.16		µg/L	2.00		108	30-150			
Surrogate: Tetrachloro-m-xylene	1.98		µg/L	2.00		98.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	2.02		µg/L	2.00		101	30-150			

QUALITY CONTROL
Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B025702 - SW-846 3510C
LCS (B025702-BS1)

Prepared: 02/07/11 Analyzed: 02/08/11

Aroclor-1016	0.58	0.20	µg/L	0.500		116	40-140			
Aroclor-1016 [2C]	0.59	0.20	µg/L	0.500		118	40-140			
Aroclor-1260	0.58	0.20	µg/L	0.500		116	40-140			
Aroclor-1260 [2C]	0.59	0.20	µg/L	0.500		118	40-140			
Surrogate: Decachlorobiphenyl	1.95		µg/L	2.00		97.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.93		µg/L	2.00		96.6	30-150			
Surrogate: Tetrachloro-m-xylene	2.09		µg/L	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	2.12		µg/L	2.00		106	30-150			

LCS Dup (B025702-BSD1)

Prepared: 02/07/11 Analyzed: 02/08/11

Aroclor-1016	0.49	0.20	µg/L	0.500		97.5	40-140	17.3	20	
Aroclor-1016 [2C]	0.50	0.20	µg/L	0.500		101	40-140	15.7	20	
Aroclor-1260	0.51	0.20	µg/L	0.500		101	40-140	14.0	20	
Aroclor-1260 [2C]	0.52	0.20	µg/L	0.500		104	40-140	13.0	20	
Surrogate: Decachlorobiphenyl	1.79		µg/L	2.00		89.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.77		µg/L	2.00		88.5	30-150			
Surrogate: Tetrachloro-m-xylene	1.57		µg/L	2.00		78.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.60		µg/L	2.00		79.9	30-150			

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
S-03	Surrogate recovery outside of control limits due to suspected sample matrix interference.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8082 in Product/Solid</i>	
Aroclor-1016	CT,NH,NY
Aroclor-1016 [2C]	CT,NH,NY
Aroclor-1221	CT,NH,NY
Aroclor-1221 [2C]	CT,NH,NY
Aroclor-1232	CT,NH,NY
Aroclor-1232 [2C]	CT,NH,NY
Aroclor-1242	CT,NH,NY
Aroclor-1242 [2C]	CT,NH,NY
Aroclor-1248	CT,NH,NY
Aroclor-1248 [2C]	CT,NH,NY
Aroclor-1254	CT,NH,NY
Aroclor-1254 [2C]	CT,NH,NY
Aroclor-1260	CT,NH,NY
Aroclor-1260 [2C]	CT,NH,NY
<i>SW-846 8082 in Water</i>	
Aroclor-1016	CT,NH,NY,RI,NC
Aroclor-1016 [2C]	CT,NH,NY,RI,NC
Aroclor-1221	CT,NH,NY,RI,NC
Aroclor-1221 [2C]	CT,NH,NY,RI,NC
Aroclor-1232	CT,NH,NY,RI,NC
Aroclor-1232 [2C]	CT,NH,NY,RI,NC
Aroclor-1242	CT,NH,NY,RI,NC
Aroclor-1242 [2C]	CT,NH,NY,RI,NC
Aroclor-1248	CT,NH,NY,RI,NC
Aroclor-1248 [2C]	CT,NH,NY,RI,NC
Aroclor-1254	CT,NH,NY,RI,NC
Aroclor-1254 [2C]	CT,NH,NY,RI,NC
Aroclor-1260	CT,NH,NY,RI,NC
Aroclor-1260 [2C]	CT,NH,NY,RI,NC
Aroclor-1262	NC
Aroclor-1262 [2C]	NC
Aroclor-1268	NC
Aroclor-1268 [2C]	NC

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2011
CT	Connecticut Department of Public Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2011
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2011
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2011
FL	Florida Department of Health	E871027 NELAP	06/30/2011
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2011
WA	State of Washington Department of Ecology	C2065	02/23/2011

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Company Name: Sci PALE Telephone: 1130000

Address: Sci PALE Project # 1130000

Attention: Sci PALE Client PO# 1130000

Project Location: Sci PALE DATA DELIVERY (check all that apply)

Sampled By: Sci PALE Fax # 1130000

Project Proposal Provided? (for billing purposes)

☐ Yes ☐ No Proposal date 2/1/11

Format: ☐ PDF ☒ EXCEL ☐ OGIS

☐ OTHER ☐ "Enhanced Data Package"

Collection ☐ Composite ☐ Grab

Beginning Date/Time 2/1/11 Ending Date/Time 2/1/11

Matrix Code 1130000 Date Rule 1130000

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ANALYSIS REQUESTED

☐ Field Filtered

☐ Lab to Filter

☐ Dissolved Metals

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☐ Dissolved Metals

Company Name:

Telephone:

Address:

Project #

Attention:

Client PO#

Project Location:

Fax #

Sampled By:

Email:

Project Proposal Provided? (for billing purposes)
☐ Yes ☐ No

Format:
☐ PDF ☐ EXCEL ☐ OGIS
☐ OTHER

Con-Test Lab ID
(Laboratory use only)

Beginning Date/Time

Ending Date/Time

Composite

Grab

*Matrix Date

Lab Date

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Sample Receipt Checklist
 CLIENT NAME: Woodard & Curran RECEIVED BY: JMG DATE: 2-2-11

1) Was the chain(s) of custody relinquished and signed?

Yes ☒ No

2) Does the chain agree with the samples?

Yes ☒ No

If not, explain:

3) Are all the samples in good condition?

Yes ☒ No

If not, explain:

4) How were the samples received:

On Ice ☒Direct from Sampling ☐Ambient ☐In Cooler(s) ☒

Were the samples received in Temperature Compliance of (2-6°C)?

Yes ☒ No ☐ N/A
 Temperature °C by Temp blank 3.6 Temperature °C by Temp gun 3.6

5) Are there Dissolved samples for the lab to filter?

Yes ☐ No ☒

Who was notified _____ Date _____ Time _____

6) Are there any samples "On Hold"?

Yes ☐ No ☒ Stored where:

7) Are there any RUSH or SHORT HOLDING TIME samples?

Yes ☐ No ☒

Who was notified _____ Date _____ Time _____

8) Location where samples are stored:
 Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____
Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	2	8 oz amber/clear jar	30
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Other glass jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		Air Cassette	
40 mL Vial - type listed below		SOC Kit	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Non-ConTest Container	
Flashpoint bottle		Other	
Encore		PM 2.5 / PM 10	
Perchlorate Kit		PUF Cartridge	

Laboratory Comments:

 40 mL vials: # HCl _____ # Methanol _____
 # Bisulfate _____ # DI Water _____
 # Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Do all samples have the proper Acid pH: Yes No N/A

Do all samples have the proper Base pH: Yes No N/A

June 2010

Meghan Kelley

From: George Franklin [GFranklin@woodardcurran.com]
Sent: Wednesday, February 02, 2011 8:06 PM
To: Lisa Dagnoli
Cc: mkelley@contestlabs.com
Subject: RE: Last chain for UMass, 2/2 samples

I reviewed the chains of custody you sent over and found a few errors that need to be corrected:
They are all within job 11B0020 which was for the Webster House:

11B0020-18 (W&C ID WH-CBC-021) - this sample should be placed on hold and not analyzed until authorized.
11B0020-12 (W&C ID WH-CBC-014) - this sample should be placed on hold and not analyzed until authorized.
11B0020-19 (W&C ID WH-CBC-022) - the sample ID should be corrected to be WH-CBK-022
11B0020-29 (W&C ID WH-CBC-037) - the sample ID should be corrected to be WH-CBK-037

Please confirm that these can be taken care of. I hope it is not too much of an inconvenience.

George

From: Lisa Dagnoli [mailto:ldagnoli@contestlabs.com]
Sent: Wed 2/2/2011 4:40 PM
To: George Franklin
Cc: mkelley@contestlabs.com
Subject: Last chain for UMass, 2/2 samples

Hi George, here is the last chain for samples from UMass received 2/2.

Lisa V. Dagnoli
Con-Test Analytical Laboratory (Filli LLC)
39 Spruce St.
East Longmeadow, MA 01028
413-525-2332, x-17
Fax 413-525-6405
LDagnoli@ContestLabs.com

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory

Project #: 11B0020

Project Location: Amherst, MA

RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]
11B0020-01 thru 11B0020-31

Matrices: Caulk

Product/Solid

Water

CAM Protocol (check all that below)

8260 VOC CAM II A ()	7470/7471 Hg CAM IIIB ()	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
8270 SVOC CAM II B ()	7010 Metals CAM III C ()	MassDEP EPH CAM IV A ()	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
6010 Metals CAM III A ()	6020 Metals CAM III D ()	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	

Affirmative response to Questions A through F is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	<input type="checkbox"/> Yes <input type="checkbox"/> No ¹
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No ¹
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
----------	---	--

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: 

Position: Laboratory Manager

Printed Name: Daren J. Damboragian

Date: 02/11/11

WEBSTER HOUSE - PROJECT SUMMARY

ConTest Analytical Laboratory Job Number: 11B0020

A modified Tier II validation was performed on the data. The criteria detailed below were used to qualify the data. Raw data were not used to verify the results reported by the laboratory.

Samples were received at 3.6 degrees Celsius. No qualifications will be applied.

PCBs:

All polychlorinated biphenyl compound (PCB) samples were extracted and analyzed within technical holding times. No qualifications will be applied.

All PCB surrogates met acceptance criteria or were diluted out with the following exceptions. Tetrachloro-m-xylene (TCMX) was recovered at a concentration less than the lowest point of the calibration curve on both columns for all caulk samples and therefore percent recoveries could not be calculated. Recoveries for decachlorobiphenyl (DCB) on both columns for all caulk samples were acceptable. No qualifications will be applied.

The PCB method blanks were non-detect (ND) for all target analytes. No qualifications will be applied.

The PCB field blank sample WH-EB-01 (11B0020-31) was ND for all target analytes. No qualifications will be applied.

The PCB matrix spike/matrix spike duplicate (MS/MSD) performed on sample WH-CBC-008 (11B0020-08) met acceptance criteria. No qualifications will be applied.

The PCB laboratory control samples (LCS) and/or laboratory control sample duplicates (LCSD) met acceptance criteria. No qualifications will be applied.

PCB field duplicate samples WH-CBC-016 (11B0020-13)/ WH-CBC-017 (11B0020-14) met acceptance criteria. No qualifications will be applied.

The relative percent difference (RPD) between the column results for all detected PCBs met acceptance criteria ($\leq 25\%$) with the following exceptions:

LAB ID	SAMPLE ID	PCB	RPD	QUALIFIER
11B0020-02	WH-CBK-002	1254	30.2	J
11B0020-05	WH-CBK-005	1254	32.3	J
11B0020-11	WH-CBK-013	1254	30.3	J

Many samples were analyzed at dilutions due to the high concentration of PCBs present in the samples and/or due to sample matrix. Elevated quantitation limits are reported in these samples as a result of the dilutions performed.

Data Check, Inc.
P.O. Box 29
81 Meaderboro Road
New Durham, NH 03855

Gloria J. Switalski:
President



Date: 02/23/2011

APPENDIX B: PROJECT SPECIFICATION DRAWINGS

WEBSTER HOUSE WINDOW REPLACEMENT UNIVERSITY OF MASSACHUSETTS AMHERST, MASSACHUSETTS

CONTRACT NO.: UMA 11-28
PROJECT NO.: 10-001711-01

BUILDING SUMMARY

DESIGN CRITERIA REFERENCES

- INTERNATIONAL BUILDING CODE (IBC) 2009
- MASSACHUSETTS STATE BUILDING CODE, 780 CMR, EIGHTH EDITION AMENDMENTS
- INTERNATIONAL ENERGY CONSERVATION CODE (IECC) 2009
- INTERNATIONAL EXISTING BUILDING CODE (IEBC) 2009
- ASCE 7-05

BUILDING USE GROUP

RESIDENTIAL R-2

MAIN ROOF HEIGHT AND BUILDING FOOT PRINT AREAS

66'-0"± 10,200 SQ. FT.

PROJECT SUMMARY

BASE BID:

REMOVE AND REPLACE DESIGNATED WINDOWS ON ALL FACADES OF THE BUILDING AND REBUILD THE EXISTING MASONRY WALL PANELS BETWEEN THE WINDOWS. REFER TO SHEET T-2 FOR A DETAILED BREAKDOWN OF THE PROJECT BASE BID.

CODE SUMMARY

INTERNATIONAL BUILDING CODE (IBC) 2009 WITH 780 CMR, THE MASSACHUSETTS STATE BUILDING CODE 8TH EDITION AMENDMENTS

CHAPTER 34, THE REPAIR, ALTERATION, ADDITION AND CHANGE OF USE OF EXISTING BUILDINGS (REFER ALSO TO THE INTERNATIONAL ENERGY CONSERVATION CODE (IECC) 2009, THE INTERNATIONAL EXISTING BUILDING CODE (IEBC) 2009, AND ASCE 7).

USE OR OCCUPANCY:

- IBC 2009 SECTION 310 RESIDENTIAL USE GROUPS: USE GROUP R-2

ENERGY CONSERVATION REQUIREMENTS- FENESTRATION:

- IECC 2009 TABLE 502.3: U-VALUE = 0.45 (STOREFRONTS)
0.55 (WINDOWS)
- IECC 2009 TABLE 502.3: MAXIMUM SOLAR HEAT GAIN COEFFICIENT (SHGC) = 0.40

STRUCTURAL LOADS:

- ASCE 7-05 CHAPTER 6 WIND LOADS:
 - BASIC WIND SPEED (MPH) = 100 (FIGURE 6-1)
 - WIND EXPOSURE = B (6.5.9.3)
- DESIGN WIND PRESSURES (6.5.12.4.2)
 - WITHIN THE SALIENT CORNER AREA = 43.08 PSF
 - WITHIN THE FIELD OF THE WALL AREA = 23.50 PSF

GLASS AND GLAZING:

- IBC 2009 SECTION 2404 WIND, SNOW, SEISMIC, AND DEAD LOADS ON GLASS:

GLASS IN WINDOWS, CURTAIN WALLS AND DOORS IN EXTERIOR APPLICATIONS SHALL BE DESIGNED TO RESIST THE WIND LOADS IN SECTION 1609 FOR COMPONENTS AND CLADDING.

LIST OF DRAWINGS

T1	TITLE SHEET
T2	SITE PLAN, FLOOR PLANS, GENERAL NOTES
A1	PARTIAL NORTHEAST ELEVATION
A2	PARTIAL NORTHWEST ELEVATION
A3	PARTIAL SOUTHEAST ELEVATION
A4	PARTIAL SOUTHWEST ELEVATION
A5	EAST ELEVATION
A6	WEST ELEVATION
A7	ENLARGED ELEVATION, WALL SECTIONS AND PLAN SECTIONS
A8	WINDOW AND STORE FRONT SCHEDULE
A9	WINDOW AND STORE FRONT SCHEDULE
A10	WINDOW AND STORE FRONT SCHEDULE
A11	HAZARDOUS MATERIALS
A12	REFLECTED SOFFIT PLAN & DETAILS
D1	WINDOW DETAILS
D2	WINDOW DETAILS
D3	WINDOW DETAILS
D4	DETAILS
D5	DETAILS
E1	ELECTRICAL REPAIRS

GALE ASSOCIATES, INC.

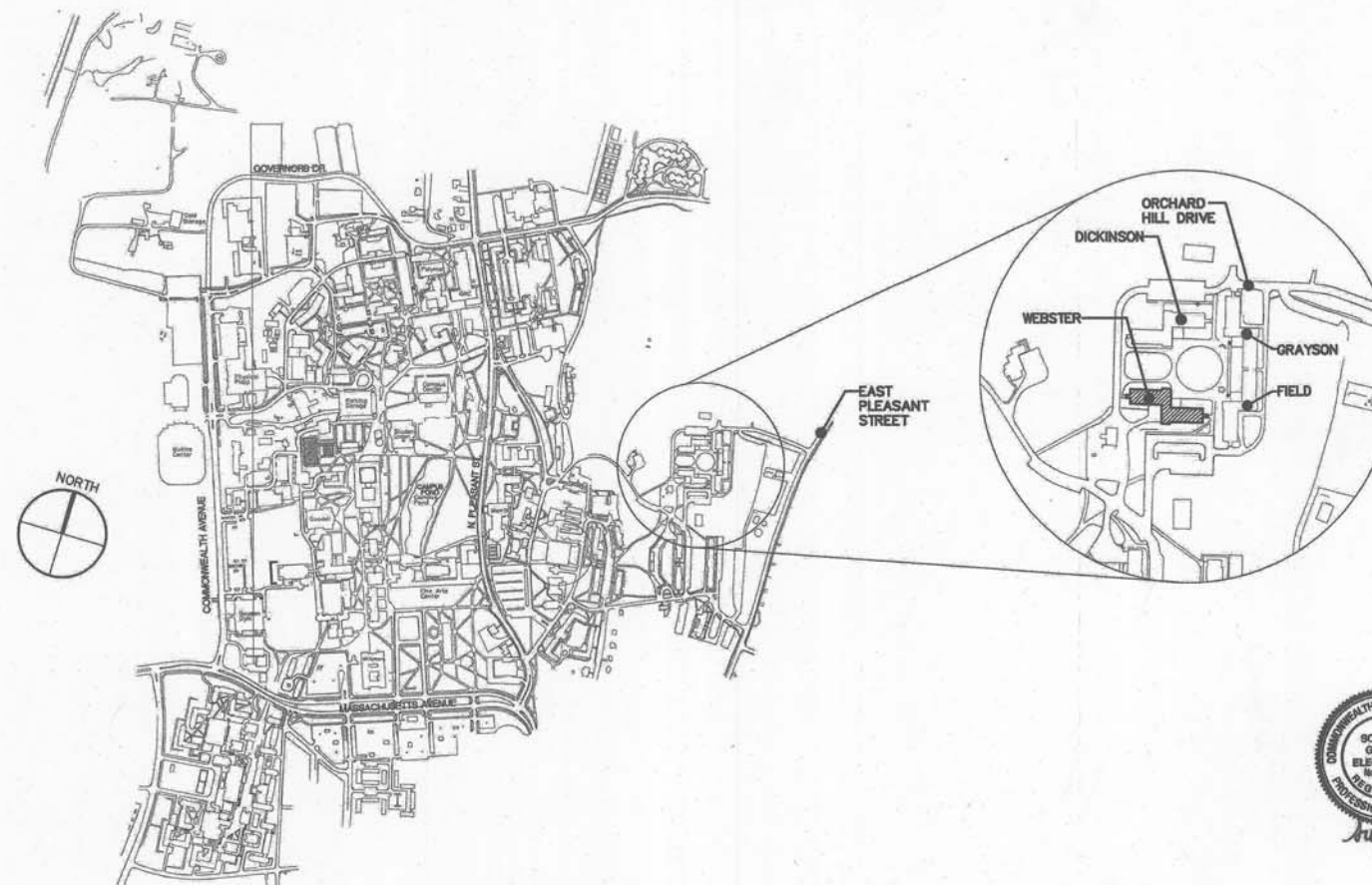
ENGINEERS • PLANNERS
163 LIBBEY PARKWAY
WEYMOUTH MA 02189
TEL. NO. 781-335-6465
FAX-NO. 781-335-6467

RDK ENGINEERS

ELECTRICAL CONSULTANT
200 ERICSTONE SQUARE
ANDOVER, MA 01810
TEL. NO. 978-475-0298
FAX-NO. 978-475-5768

FACILITIES AND CAMPUS PLANNING DIVISION

UNIVERSITY OF MASSACHUSETTS
PROJECT MANAGER
NAME GAIL KENNY
TEL. NO. (413) 577-1716
E-MAIL GKENNY@FACIL.UMASS.EDU
FAX-NO. (413) 545-3684



LOCUS PLAN
NOT TO SCALE

LOCATION PLAN
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Engineers • Planners

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GALE

REV. NO.	DESCRIPTION	BY	APP'D	DATE
1	UNIVERSITY OF MASSACHUSETTS FACILITIES AND CAMPUS PLANNING DIVISION			

WEBSTER HOUSE WINDOW REPLACEMENT TITLE SHEET				
BY	DATE	PROJECT NO.	PROJ.-CONTRACT NO.	
DRN.	HGM	1/27	10-001711-01	UMA 11-28
APP'D	CM	2/3	SCALE	SHEET 1 OF 20
CKD.	CM	2/3	DRAWING NUMBER	
APP'D	SFL	2/3	D-A-333-10-001711-01-T1	

PROJECT SUMMARY/ BID SUMMARY

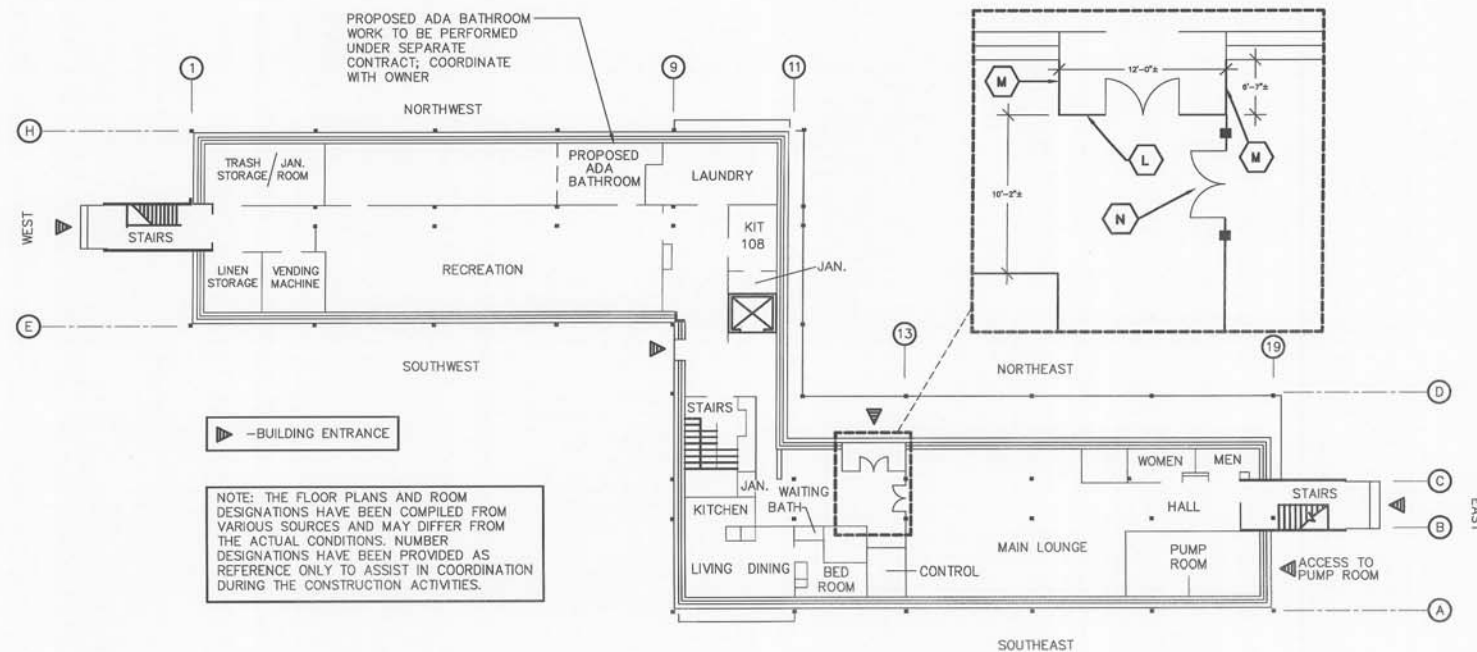
1. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FACADE RENOVATIONS INCLUDING COORDINATION AND INSTALLATION OF THROUGHWALL FLASHINGS AT ALL FLOOR LOCATIONS BETWEEN WINDOWS. GENERAL CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL HAZARDOUS MATERIAL ABATEMENT, REBUILDING OF THE SOFFITS AT THE NORTHEAST AND EAST ELEVATIONS, GENERAL ACCESS TO THE WALL ELEVATIONS FOR TRADE WORK, GENERAL LAYDOWN/STORAGE PROTECTION, CARPENTRY, AND MISCELLANEOUS CONCRETE REPAIRS.
2. MASONRY SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF EXISTING BRICK MASONRY AND THROUGHWALL FLASHING, AS WELL AS NEW WATERPROOFING, NEW INSULATION, AND REPLACEMENT OF BRICK MASONRY.
3. THE SHEET METAL SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL NEW THROUGHWALL FLASHINGS AND MASONRY PANEL HEAD FLASHINGS.
4. THE WINDOW SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL WINDOWS AND ASSOCIATED WINDOW TRIM, FLASHINGS (DIRECTLY RELATED TO THE WINDOWS), BLINDS, DRAPES, AND SEALANT. REFER TO SPECIFICATIONS FOR DETAILED SCOPE OF WORK.
5. THE ELECTRICAL SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF THE NEW ELECTRICAL BOXES, COVERING OF HOLES THROUGH THE CONCRETE MASONRY UNIT WALLS, INSTALLATION OF NEW ELECTRICAL CONDUITS AND WIRING, AND INSTALLATION OF FIRECAULKING AT CORED HOLE LOCATIONS.

EACH SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN DUMPSTERS, TRANSPORTATION, AND SPECIAL ACCESS BEYOND THAT PROVIDED BY THE GENERAL CONTRACTOR.

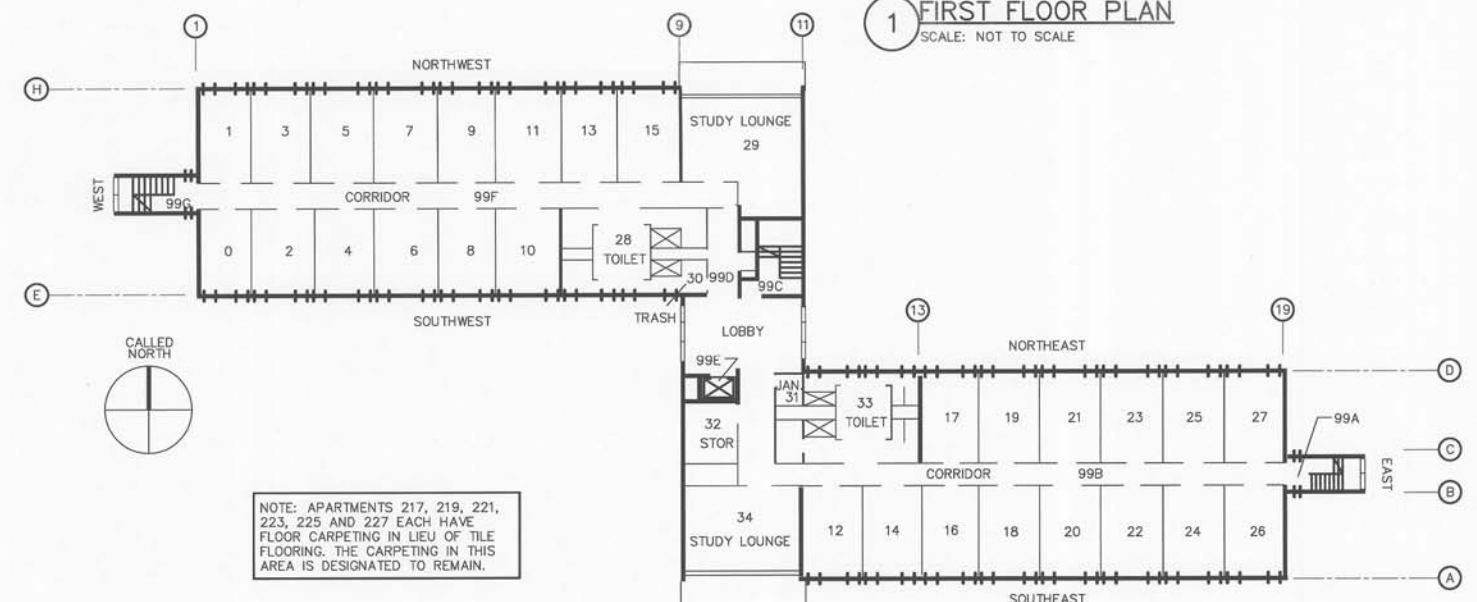
- A. BASE BID - REMOVE AND REPLACE ALL STUDENT ROOMS AND BATHROOM WINDOWS ON ALL ELEVATIONS, ALL WINDOWS IN THE ELEVATOR LOBBIES, ALL DESIGNATED FIRST FLOOR WINDOWS AND DOORS, AND ALL WINDOWS IN THE STAIRWELLS ON ALL FLOORS; REMOVAL IN DESIGNATED AREAS REQUIRES ABATEMENT OF ASBESTOS, LOW-LEVEL PCB, AND HIGH-LEVEL PCB-CONTAINING MATERIALS- REFER TO THE HAZARDOUS MATERIALS SHEET FOR ADDITIONAL INFORMATION REGARDING THE LOCATION AND EXTENT OF THESE AREAS; THE WORK SHALL ALSO INCLUDE THE REMOVAL AND REPLACEMENT OF THE BRICK MASONRY BETWEEN THE DORMITORY WINDOWS TO INSTALL NEW THROUGH WALL FLASHINGS, WATERPROOFING, AND INSULATION. BASE BID ADDITIONALLY INCLUDES THE REPLACEMENT OF ALL STUDENT ROOM DESKTOPS, REBUILDING OF THE SOFFITS AT THE NORTHEAST AND EAST ELEVATIONS, AND ELECTRICAL BOX AND CONDUIT REPAIRS AT ALL STUDENT ROOMS.
- B. ALL OPENINGS MUST BE MADE WATER TIGHT AND SECURE FROM UNAUTHORIZED PERSONNEL ON A DAILY BASIS, AND TO THE SATISFACTION OF THE OWNER.

FLOOR PLANS

SCALE: NOT TO SCALE



1 FIRST FLOOR PLAN
SCALE: NOT TO SCALE

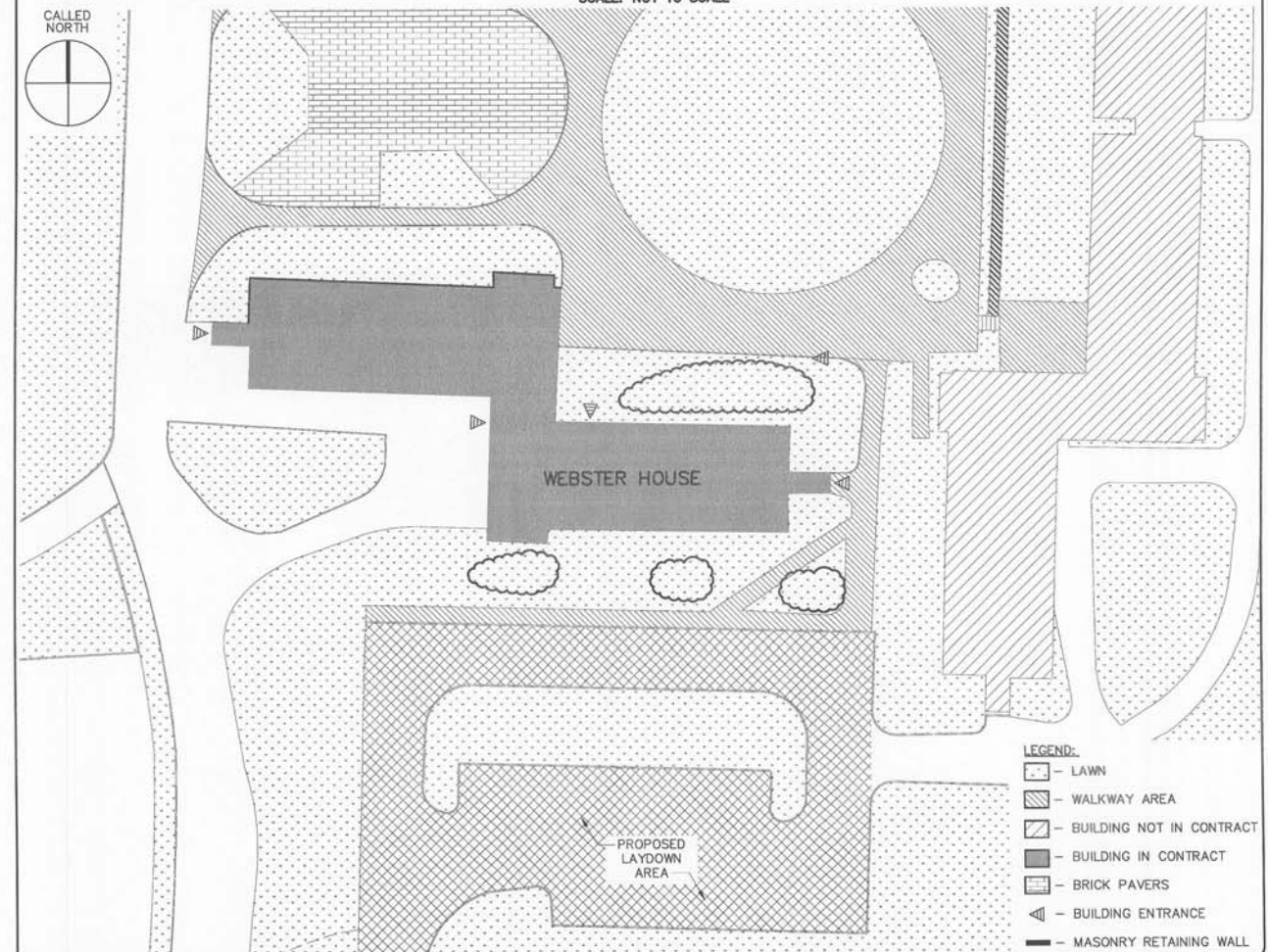


2) TYPICAL DORMITORY FLOOR PLAN
(FLOORS 2 [SIM], 3, 4, 5, 6, & 7)
SCALE: NOT TO SCALE

ALL ROOM NUMBERS
TO BE PREFIXED BY
THE FLOOR NUMBER
INVOLVED

SITE PLAN

SCALE: NOT TO SCALE



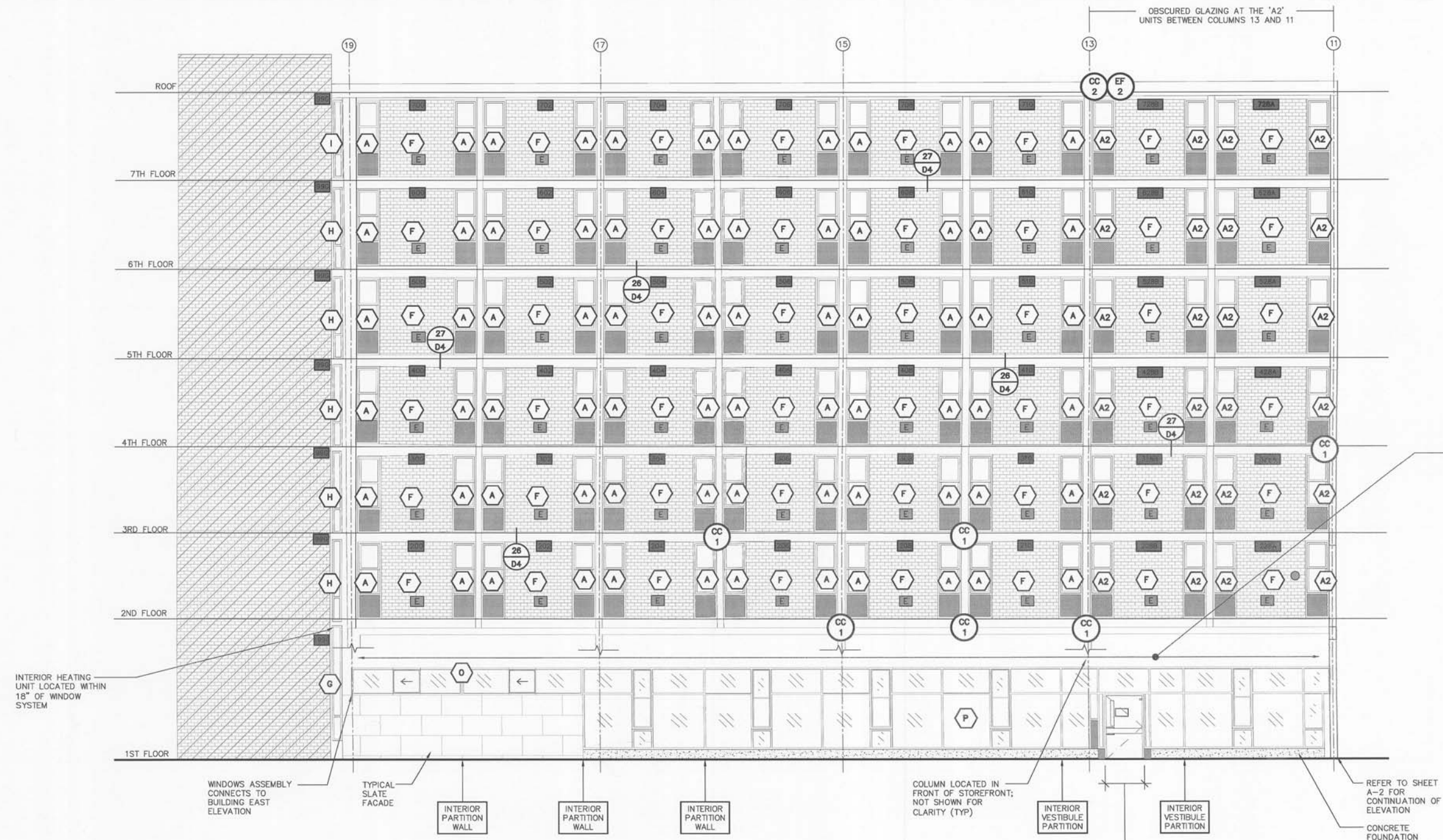
GENERAL NOTES

1. THE INFORMATION SHOWN ON THIS PLAN HAS BEEN COMPILED FROM VARIOUS SOURCES AND MAY NOT REFLECT THE ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD.
2. ANY CONDITION FOUND NOT DETAILED SHALL BE CONSTRUCTED IN A MANNER SIMILAR TO THAT OF THE TYPICAL DETAILS.
3. THE CONTRACTOR SHALL BASE STAGING REQUIREMENTS ON THE INFORMATION SHOWN. THE LOCATIONS ARE APPROXIMATE AND MAY BE SUBJECT TO CHANGE.
4. CONTRACTOR SHALL PROVIDE ALL OVERHEAD PROTECTION AT BUILDING ENTRANCE WAYS IN ACCORDANCE WITH OSHA, LOCAL, STATE AND FEDERAL GUIDELINES.
5. CONTRACTOR SHALL PROVIDE ALL TEMPORARY BARRICADES TO PREVENT PEDESTRIANS FROM ACCESSING THE WORK AREA OR FROM WALKING UNDER WORK LOCATIONS.
6. ALL OVERHEAD PROTECTION SHALL EXTEND A MINIMUM OF 8'-0" BEYOND THE ADJACENT WALL.
7. CONTRACTOR MAY PROVIDE TEMPORARY BARRICADES AT PEDESTRIAN WALKWAYS SHOULD THE AREAS ABOVE SAID WALKWAYS BE COMPLETED IN THE SAME DAY.
8. NO PARKING WILL BE PERMITTED UNDER THE ADJACENT TREES.
9. CONTRACTOR WILL BE REQUIRED TO ENCLOSE THE STAGING AREAS WITH FENCES. DIG SAFE MUST BE NOTIFIED PRIOR TO INSTALLATION OF THE FENCES SHOULD THE POSTS PENETRATE ASPHALT OR EARTH AREAS.
10. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE PROPOSED STAGING/LAYDOWN AREAS FOR THE OWNER'S REVIEW THAT WILL MINIMIZE DISRUPTIONS TO THE BUILDING AND SURROUNDINGS.
11. ALL CONTRACTOR STORAGE AND LAYDOWN AREAS ARE TO BE LOCATED ON ASPHALT SURFACES AS MUCH AS POSSIBLE, CONTRACTOR WILL BE REQUIRED TO PROVIDE NEW SOD FOR ALL LAWN AREAS DAMAGED DURING OPERATION. REFER TO SECTION 01 77 00 - CLOSE OUT PROCEDURE FOR ADDITIONAL INFORMATION.
12. CONTRACTOR WILL BE RESPONSIBLE TO OBTAIN AND PAY FOR ALL PARKING SPACES UTILIZED UNDER THIS CONTRACT. CONTRACTOR TO COORDINATE PARKING WITH UMA PARKING SERVICES (413-545-0065).

Gale Associates, Inc.
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Boston Baltimore Orlando San Francisco



REV. NO.		DESCRIPTION		BY	APP'D	DATE
		UNIVERSITY OF MASSACHUSETTS FACILITIES AND CAMPUS PLANNING DIVISION				
		<u>WEBSTER HOUSE</u> <u>WINDOW REPLACEMENT</u>				
		SITE PLAN, FLOOR PLANS, AND GENERAL NOTES				
		PROJECT NO. 10-001711-01				
DRN.	BY	DATE	PROJECT NO.		PROJ.-CONTRACT NO.	
	HQM	2/3	10-001711-01		UMA 11-28	
			SCALE		SHEET	
APP'D	CM		VARIES		2 OF 20	
KCD.	CM		DRAWING NUMBER			
APP'D	JFL		D-A-333-10-001711-01-T2			



1 PARTIAL NORTHEAST ELEVATION
SCALE: 3/16"=1'-0"
0 4' 8' 12'

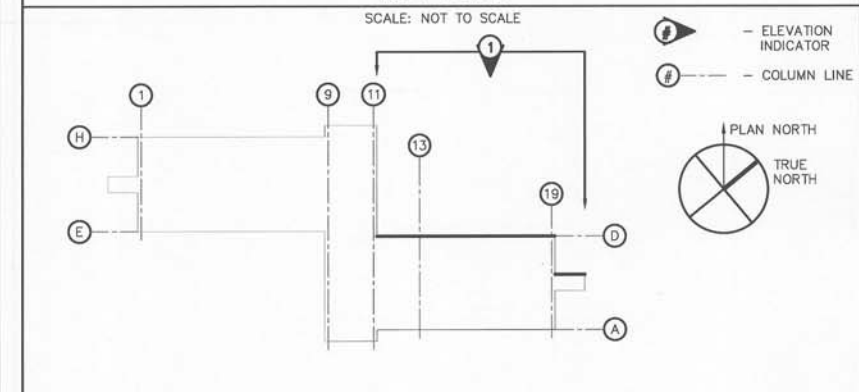
GENERAL NOTES

1. THE INFORMATION SHOWN ON THIS DRAWING HAS BEEN COMPILED FROM VARIOUS SOURCES AND MAY NOT REFLECT THE ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD.
2. HATCH PATTERNS ARE FOR REPRESENTATION ONLY AND SHALL NOT BE USED AS A FORM FOR MEASUREMENT.
3. FOR THE SAKE OF CLARITY, EACH INDIVIDUAL DETAIL HAS NOT BEEN INDICATED ON THIS DRAWING. INSTALLATION DETAILS HAVE BEEN INDICATED FOR TYPICAL COMPONENTS AT RANDOM LOCATIONS.
4. ANY CONDITION NOT DETAILED SHALL BE CONSTRUCTED IN A MANNER SIMILAR TO THAT OF THE TYPICAL DETAILS.
5. THE WINDOW SIZES VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL WINDOW SIZES IN THE FIELD.
6. ALL WINDOW FRAMES, VERTICAL MULLIONS, CLIPS AND SECUREMENTS SHALL BE DESIGNED TO WITHSTAND A 43 PSF WIND LOAD.
7. REFER TO THE WINDOW AND STOREFRONT SCHEDULE FOR ADDITIONAL INFORMATION.
8. IN GENERAL: REMOVE AND REPLACE EXISTING EXTERIOR WINDOWS, DOORS AND ENTRANCES. REFER TO SPECIFICATIONS FOR DETAILED SCOPE OF WORK.

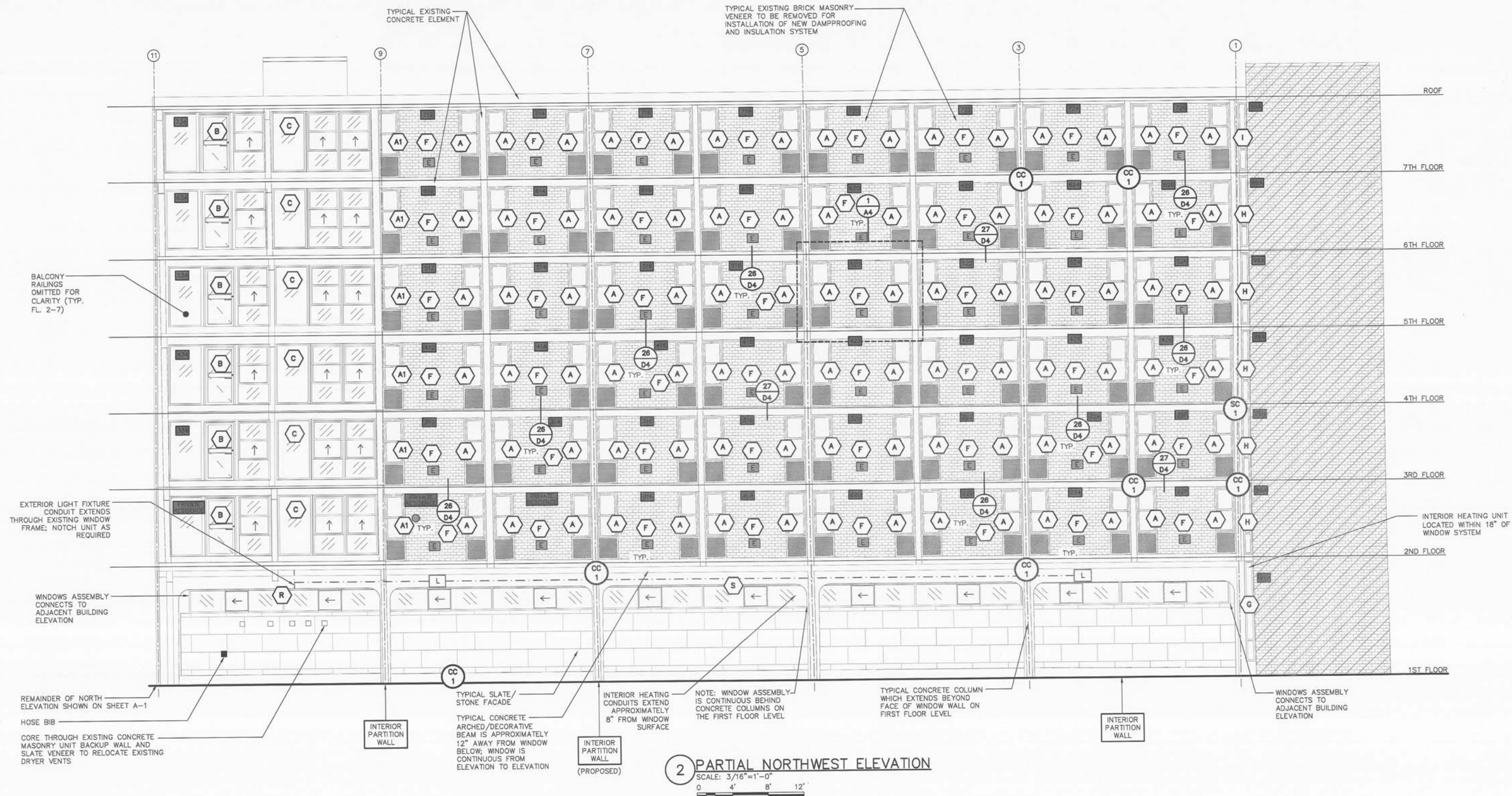
LEGEND

	- WINDOW/ PANEL INDICATOR		- LIGHT WITH CONDUIT MOUNTED TO WALL
	- DETAIL NUMBER		- LIGHT SENSOR THROUGH MASONRY PANEL AND BACKUP WALL
	- DETAIL SHEET LOCATION		- APPROXIMATE LOCATION OF ELECTRICAL BOX AND CONDUIT WITHIN BACK-UP WALL SYSTEM
	- NOT IN CONTRACT OR NOT REFERENCED ON THIS SHEET		- INTERIOR ROOM DESIGNATION NUMBER
	- CRACKED PRECAST CONCRETE TO BE REPAIRED # INDICATES LINEAR FEET		- BRICK MASONRY PANEL
	- SPALLED CONCRETE TO BE REPAIRED # INDICATES SQUARE FEET		- PROVIDE 1" INSULATED PANEL AT DESIGNATED LOCATIONS
	- EFFLORESCE # INDICATES SQUARE FEET		- SLATE FACADE

KEY PLAN



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REV. NO.	DESCRIPTION	BY	APP'D DATE
1	UNIVERSITY OF MASSACHUSETTS FACILITIES AND CAMPUS PLANNING DIVISION		
WEBSTER HOUSE WINDOW REPLACEMENT PARTIAL NORTHEAST ELEVATION			
DRN.	BY	DATE	PROJECT NO.
APP'D	CM	2/3	10-001711-01
CKD.	CM		SCALE
APP'D	JFL		3/16"=1'-0"
DRAWING NUMBER		PROJECT-CONTRACT NO.	
D-A-333-10-001711-01-A1		UMA 11-28	
		SHEET 3 OF 20	



2 PARTIAL NORTHWEST ELEVATION
 SCALE: 3/16"=1'-0"
 0 4' 8' 12'

GENERAL NOTES

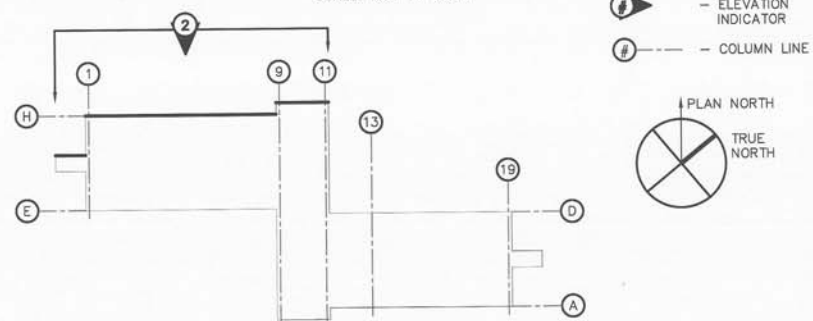
1. THE INFORMATION SHOWN ON THIS DRAWING HAS BEEN COMPILED FROM VARIOUS SOURCES AND MAY NOT REFLECT THE ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD.
2. HATCH PATTERNS ARE FOR REPRESENTATION ONLY AND SHALL NOT BE USED AS A FORM FOR MEASUREMENT.
3. FOR THE SAKE OF CLARITY, EACH INDIVIDUAL DETAIL HAS NOT BEEN INDICATED ON THIS DRAWING. INSTALLATION DETAILS HAVE BEEN INDICATED FOR TYPICAL COMPONENTS AT RANDOM LOCATIONS.
4. ANY CONDITION NOT DETAILED SHALL BE CONSTRUCTED IN A MANNER SIMILAR TO THAT OF THE TYPICAL DETAILS.
5. THE WINDOW SIZES VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL WINDOW SIZES IN THE FIELD.
6. ALL WINDOW FRAMES, VERTICAL MULLIONS, CLIPS AND SECUREMENTS SHALL BE DESIGNED TO WITHSTAND A 43 PSF WIND LOAD.
7. REFER TO THE WINDOW AND STOREFRONT SCHEDULE FOR ADDITIONAL INFORMATION.
8. IN GENERAL: REMOVE AND REPLACE EXISTING EXTERIOR WINDOWS, DOORS AND ENTRANCES. REFER TO SPECIFICATIONS FOR DETAILED SCOPE OF WORK.

LEGEND

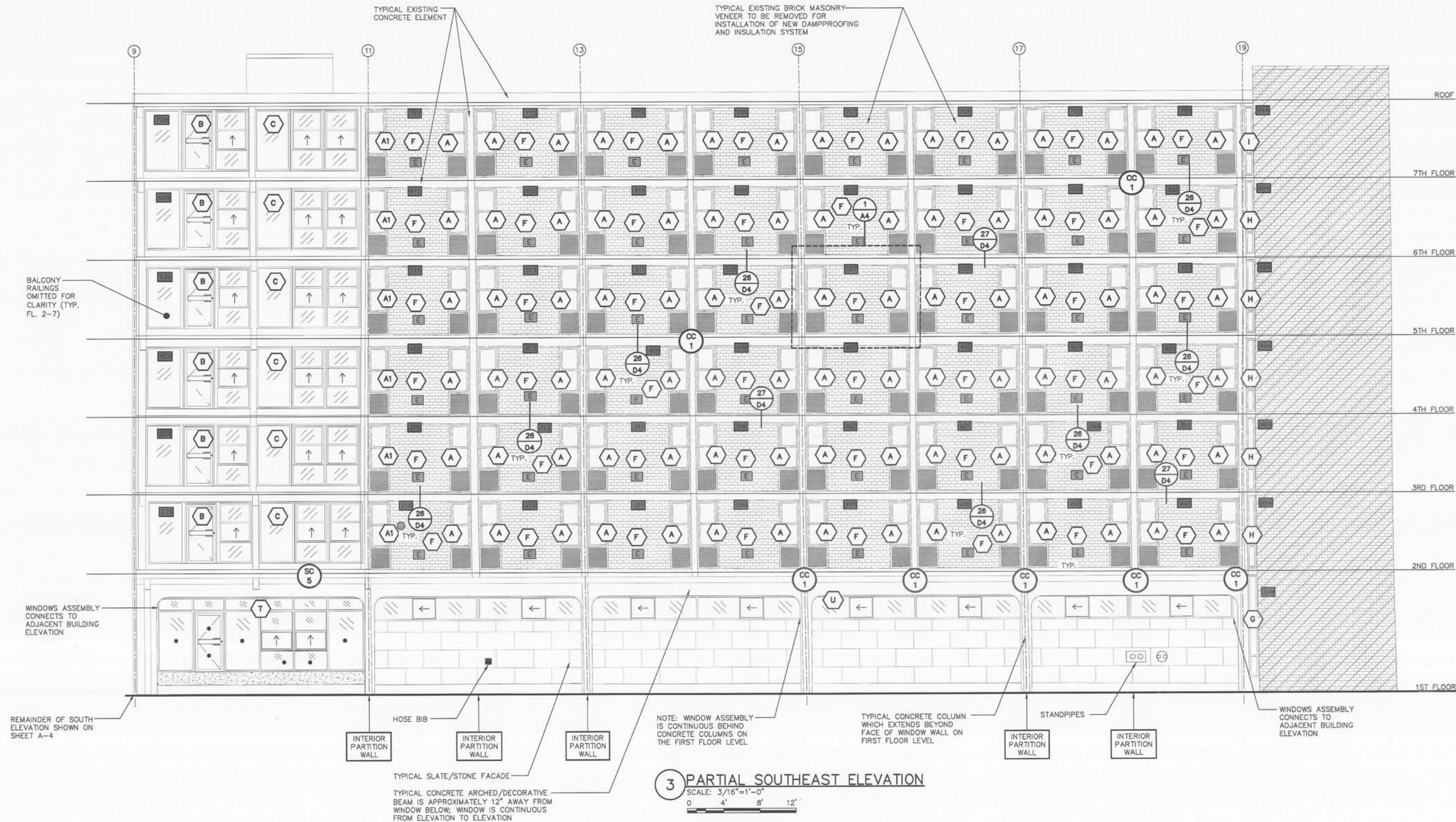
	- WINDOW/ PANEL INDICATOR		- LIGHT WITH CONDUIT MOUNTED TO WALL
	- DETAIL NUMBER		- LIGHT SENSOR THROUGH MASONRY PANEL AND BACKUP WALL
	- DETAIL SHEET LOCATION		- APPROXIMATE LOCATION OF ELECTRICAL BOX AND CONDUIT WITHIN BACK-UP WALL SYSTEM
	- NOT IN CONTRACT OR NOT REFERENCED ON THIS SHEET		- INTERIOR ROOM DESIGNATION NUMBER
	- CRACKED PRECAST CONCRETE TO BE REPAIRED # INDICATES LINEAR FEET		- BRICK MASONRY PANEL
	- SPALLED CONCRETE TO BE REPAIRED # INDICATES SQUARE FEET		- PROVIDE 1" INSULATED PANEL AT DESIGNATED LOCATIONS
	- EFFLORESCENCE # INDICATES SQUARE FEET		- SLATE FACADE

KEY PLAN

SCALE: NOT TO SCALE



Gale Associates, Inc. Engineers Planners 163 Libbey Parkway Weymouth, MA 02188-0004 P 781.335.6465 F 781.335.6467 www.galeinc.com Boston Baltimore Orlando San Francisco					
REV. NO.	DESCRIPTION	BY	APP'D	DATE	
UNIVERSITY OF MASSACHUSETTS FACILITIES AND CAMPUS PLANNING DIVISION					
WEBSTER HOUSE WINDOW REPLACEMENT PARTIAL NORTHWEST ELEVATION					
DRN.	HGM	2/3	PROJECT NO.	10-001711-01	PROJ.-CONTRACT NO.
APP'D	CM		SCALE	3/16"=1'-0"	UMA 11-28
CKD.	CM		DRAWING NUMBER	D-A-333-10-001711-01-A2	SHEET 4 OF 20
APP'D	JFL				



3 PARTIAL SOUTHEAST ELEVATION
 SCALE: 3/16"=1'-0"
 0 4' 8' 12'

GENERAL NOTES

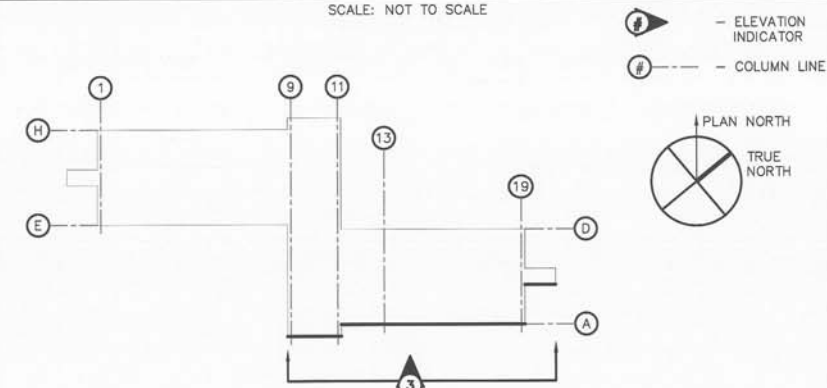
1. THE INFORMATION SHOWN ON THIS DRAWING HAS BEEN COMPILED FROM VARIOUS SOURCES AND MAY NOT REFLECT THE ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD.
2. HATCH PATTERNS ARE FOR REPRESENTATION ONLY AND SHALL NOT BE USED AS A FORM FOR MEASUREMENT.
3. FOR THE SAKE OF CLARITY, EACH INDIVIDUAL DETAIL HAS NOT BEEN INDICATED ON THIS DRAWING. INSTALLATION DETAILS HAVE BEEN INDICATED FOR TYPICAL COMPONENTS AT RANDOM LOCATIONS.
4. ANY CONDITION NOT DETAILED SHALL BE CONSTRUCTED IN A MANNER SIMILAR TO THAT OF THE TYPICAL DETAILS.
5. THE WINDOW SIZES VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL WINDOW SIZES IN THE FIELD.
6. ALL WINDOW FRAMES, VERTICAL MULLIONS, CLIPS AND SECUREMENTS SHALL BE DESIGNED TO WITHSTAND A 43 PSF WIND LOAD.
7. REFER TO THE WINDOW AND STOREFRONT SCHEDULE FOR ADDITIONAL INFORMATION.
8. IN GENERAL: REMOVE AND REPLACE EXISTING EXTERIOR WINDOWS, DOORS AND ENTRANCES. REFER TO SPECIFICATIONS FOR DETAILED SCOPE OF WORK.

LEGEND

	- WINDOW/ PANEL INDICATOR		- LIGHT WITH CONDUIT MOUNTED TO WALL
	- DETAIL NUMBER		- LIGHT SENSOR THROUGH MASONRY PANEL AND BACKUP WALL
	- DETAIL SHEET LOCATION		- APPROXIMATE LOCATION OF ELECTRICAL BOX AND CONDUIT WITHIN BACK-UP WALL SYSTEM
	- NOT IN CONTRACT OR NOT REFERENCED ON THIS SHEET		- INTERIOR ROOM DESIGNATION NUMBER
	- CRACKED PRECAST CONCRETE TO BE REPAIRED # INDICATES LINEAR FEET		- BRICK MASONRY PANEL
	- SPALLED CONCRETE TO BE REPAIRED # INDICATES SQUARE FEET		- PROVIDE 1" INSULATED PANEL AT DESIGNATED LOCATIONS
	- EFFLORESCENCE # INDICATES SQUARE FEET		- SLATE FACADE

KEY PLAN

SCALE: NOT TO SCALE



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REV. NO.	DESCRIPTION	BY	APP'D DATE
UNIVERSITY OF MASSACHUSETTS FACILITIES AND CAMPUS PLANNING DIVISION			
WEBSTER HOUSE WINDOW REPLACEMENT PARTIAL SOUTHEAST ELEVATION			
DRN.	HGM	DATE	PROJECT NO.
APP'D	CM	2/3	10-001711-01
CKD.	CM		SCALE
APP'D	JFL		3/16"=1'-0"
DRAWING NUMBER		PROJ.-CONTRACT NO.	
D-A-333-10-001711-01-A3		UMA 11-28	
		SHEET 5 OF 20	



4 PARTIAL SOUTHWEST ELEVATION
 SCALE: 3/16"=1'-0"
 0 4' 8' 12'

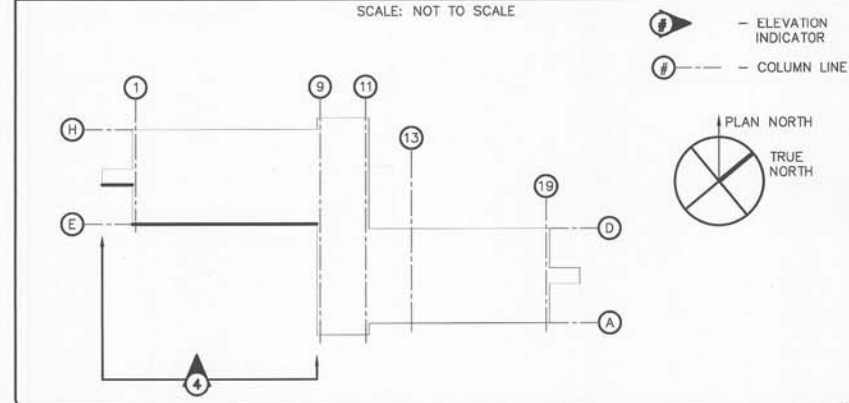
GENERAL NOTES

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2. HATCH PATTERNS ARE FOR REPRESENTATION ONLY AND SHALL NOT BE USED AS A FORM FOR MEASUREMENT.
3. FOR THE SAKE OF CLARITY, EACH INDIVIDUAL DETAIL HAS NOT BEEN INDICATED ON THIS DRAWING. INSTALLATION DETAILS HAVE BEEN INDICATED FOR TYPICAL COMPONENTS AT RANDOM LOCATIONS.
4. ANY CONDITION NOT DETAILED SHALL BE CONSTRUCTED IN A MANNER SIMILAR TO THAT OF THE TYPICAL DETAILS.
5. THE WINDOW SIZES VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL WINDOW SIZES IN THE FIELD.
6. ALL WINDOW FRAMES, VERTICAL MULLIONS, CLIPS AND SECUREMENTS SHALL BE DESIGNED TO WITHSTAND A 36 PSF WIND LOAD.
7. REFER TO THE WINDOW AND STOREFRONT SCHEDULE FOR ADDITIONAL INFORMATION.
8. IN GENERAL: REMOVE AND REPLACE EXISTING EXTERIOR WINDOWS, DOORS AND ENTRANCES. REFER TO SPECIFICATIONS FOR DETAILED SCOPE OF WORK.

LEGEND

- | | | | |
|--|---|--|---|
| | - WINDOW/ PANEL INDICATOR | | - LIGHT WITH CONDUIT MOUNTED TO WALL |
| | - DETAIL NUMBER | | - LIGHT SENSOR THROUGH MASONRY PANEL AND BACKUP WALL |
| | - DETAIL SHEET LOCATION | | - APPROXIMATE LOCATION OF ELECTRICAL BOX AND CONDUIT WITHIN BACK-UP WALL SYSTEM |
| | - NOT IN CONTRACT OR NOT REFERENCED ON THIS SHEET | | - INTERIOR ROOM DESIGNATION NUMBER |
| | - CRACKED PRECAST CONCRETE TO BE REPAIRED # INDICATES LINEAR FEET | | - BRICK MASONRY PANEL |
| | - SPALLED CONCRETE TO BE REPAIRED # INDICATES SQUARE FEET | | - PROVIDE 1" INSULATED PANEL AT DESIGNATED LOCATIONS |
| | - EFFLORESCENCE # INDICATES SQUARE FEET | | - SLATE FACADE |

KEY PLAN



Gale Associates, Inc. Engineers - Planners 163 Libbey Parkway Weymouth, MA 02188-0004 P 781.335.6485 F 781.335.6487 www.galeinc.com			
REV. NO. DESCRIPTION BY APP'D DATE			
UNIVERSITY OF MASSACHUSETTS FACILITIES AND CAMPUS PLANNING DIVISION			
WEBSTER HOUSE WINDOW REPLACEMENT PARTIAL SOUTHWEST ELEVATION			
DRN.	BY	DATE	PROJECT NO.
APP'D	HMM	2/3	10-001711-01
CKD.	CM		SCALE 3/16"=1'-0"
APP'D	JFL		DRAWING NUMBER
		D-A-333-10-001711-01-A4	
		PROJ.-CONTRACT NO. UMA 11-28	
		SHEET 8 OF 20	

CADD FILE: 822355\DESIGN\DWG\822355 A1-A6



GENERAL NOTES

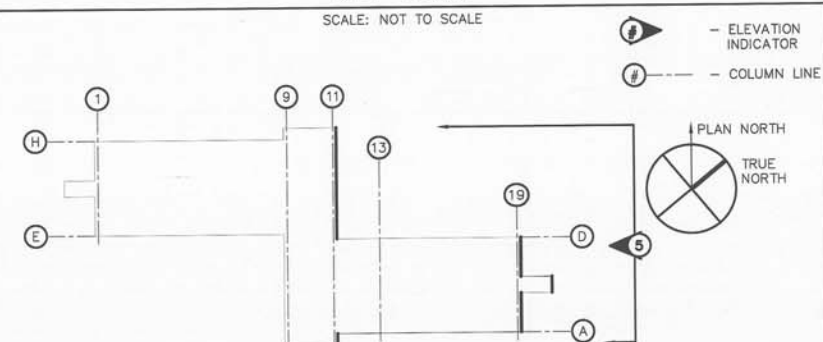
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6. ALL WINDOW FRAMES, VERTICAL MULLIONS, CLIPS AND SECUREMENTS SHALL BE DESIGNED TO WITHSTAND A 43 PSF WIND LOAD.
7. REFER TO THE WINDOW AND STOREFRONT SCHEDULE FOR ADDITIONAL INFORMATION.
8. IN GENERAL: REMOVE AND REPLACE EXISTING EXTERIOR WINDOWS, DOORS AND ENTRANCES. REFER TO SPECIFICATIONS FOR DETAILED SCOPE OF WORK.

LEGEND

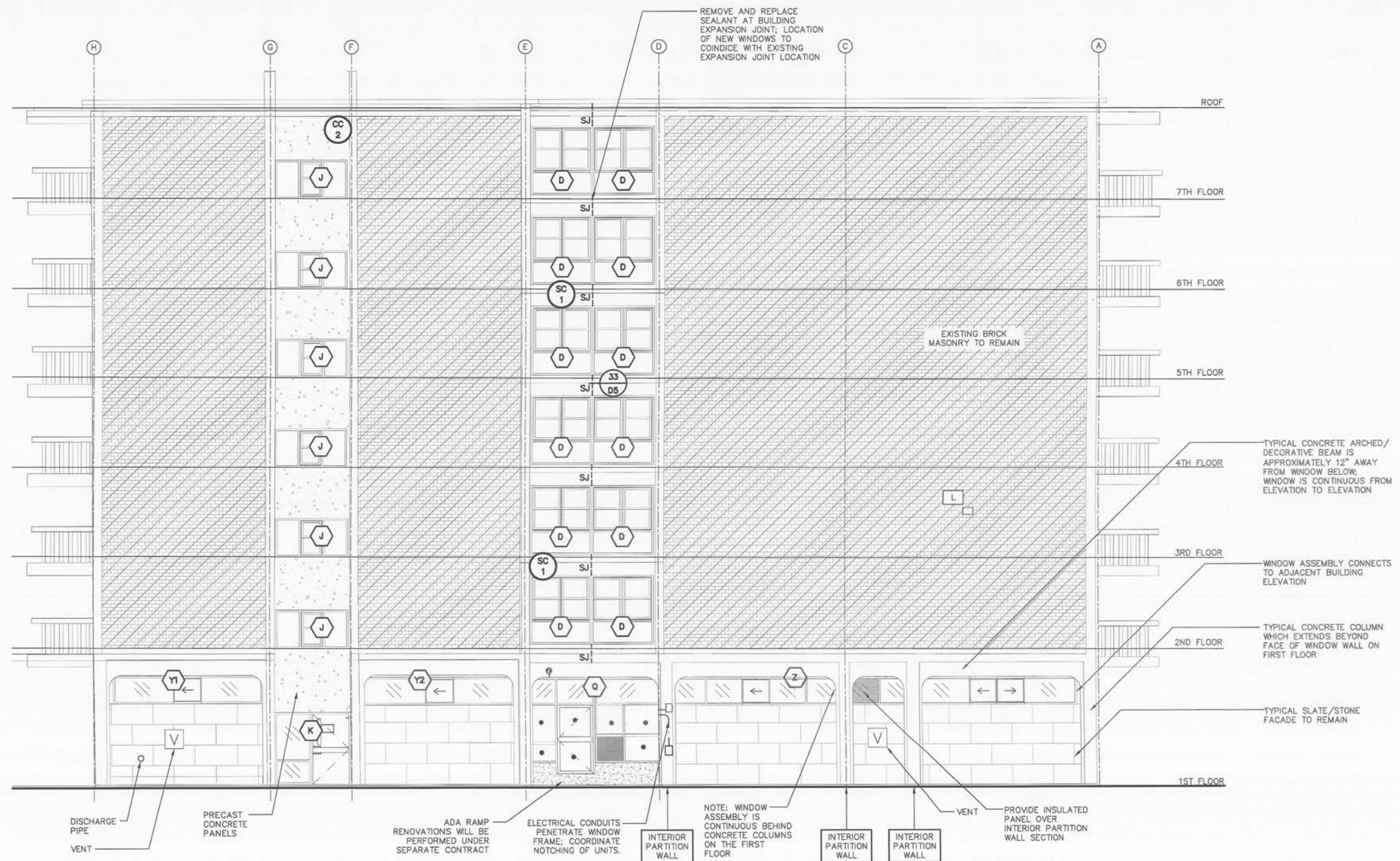
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| | - EFFLORESCENCE # INDICATES SQUARE FEET | | - SLATE FACADE |

KEY PLAN

SCALE: NOT TO SCALE



Gale Associates, Inc. Engineers Planners 163 Libbey Parkway Weymouth, MA 02189-0004 P 781.335.6465 F 781.335.6467 www.galeinc.com Boston Baltimore Orlando San Francisco					
REV. NO.	DESCRIPTION		BY	APP'D	DATE
<div><div>UNIVERSITY OF MASSACHUSETTS FACILITIES AND CAMPUS PLANNING DIVISION</div></div>					
<div><div>WEBSTER HOUSE</div><div>WINDOW REPLACEMENT</div><div>EAST ELEVATION</div></div>					
BY DATE			PROJECT NO.		
2/3			10-001711-01		
SCALE			SHEET		
3/16"=1'-0"			7		
OF			20		
DRN.	HOM	2/3	PROJ.-CONTRACT NO.		
			UMA 11-28		
APP'D	CM				
CKD.	CM		DRAWING NUMBER		
APP'D	JFL		D-A-333-10-001711-01-A5		



GENERAL NOTES

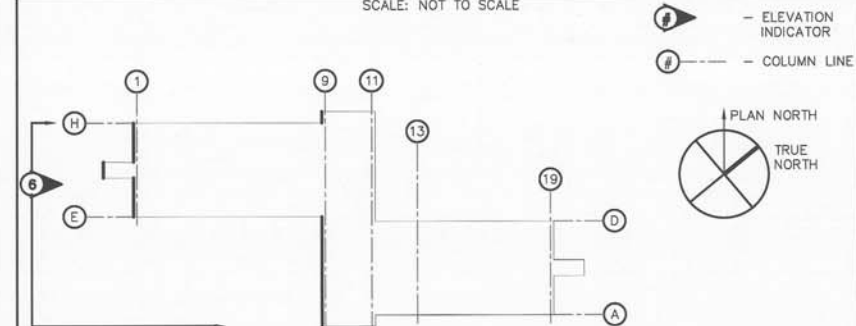
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KEY PLAN

SCALE: NOT TO SCALE



Gale Associates, Inc. Engineers / Planners 163 Libbey Parkway Weymouth, MA 02189-0004 P 781.335.6455 F 781.335.6467 www.galec.com					
REV. NO.	DESCRIPTION	BY	APP'D	DATE	
UNIVERSITY OF MASSACHUSETTS FACILITIES AND CAMPUS PLANNING DIVISION					
WEBSTER HOUSE WINDOW REPLACEMENT WEST ELEVATION					
BY	DATE	PROJECT NO.	PROJ.-CONTRACT NO.		
DRN.	HGM	10-001711-01	UMA 11-28		
APP'D	CM	SCALE	SHEET 8 OF 20		
CKD.	CM	DRAWING NUMBER			
APP'D	JFL	D-A-333-10-001711-01-A6			

APPENDIX C: WRITTEN CERTIFICATION



Certification

The undersigned owner of the property where the cleanup site is located and the party conducting the cleanup certify that all sampling plans, sampling collection procedures, sample preparation procedures, extraction procedures and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site, are on file at the location indicated below and are available for EPA inspection, as set forth below.

Document Location

Environmental Health and Safety
Draper Hall
University of Massachusetts
40 Campus Center Way
Amherst, MA 01003-9244

Property Owner and Party Conducting the Cleanup

A handwritten signature in black ink that reads "Donald Robinson, PhD".

Authorized Signature

Date 3.29.2011

DONALD ROBINSON

Name of Authorized representative (print)

DIRECTOR, ENV. HEALTH + SAFETY

Title

APPENDIX D: AIR MONITORING PLAN

APPENDIX D – SUPPORT ZONE/PERIMETER AIR MONITORING PLAN

Airborne particulate matter (PM) consists of many different substances suspended in air in the form of particles (solids or liquid droplets) that vary widely in size. Inhalation hazards are caused if the intake of these particles includes intake of vapors and/or contaminated dust. Particles less than 10 micrometers in diameter (PM-10), which include both respirable fine (less than 2.5 micrometers) and coarse (less than 10 micrometers) dust particles, pose the greatest potential health concern because they can pass through the nose and throat and get into the lungs.

During the performance of the planned remediation activities, particulate matter in the form of potentially PCB-affected dust may be generated. The greatest potential for the generation of affected dust is during the removal of PCB containing building materials such as the stucco ceiling.

As indicated in the remediation plan, the main dust control mechanism to be employed on the project will be the use of engineering controls (e.g. wet techniques and misting), polyethylene containment structures, and personal protective equipment (PPE). In addition, particulate air monitoring will be conducted during intrusive or dust-generating activities in the Support Work Zone (SWZ) and perimeter to the SWZ. The SWZ is the area just outside of the active work areas, in designated safe work zones or support zones. Particulate air monitoring will determine if fugitive dust particles are present in the ambient air within the designated SWZ and/or perimeter during active removal activities. A direct-reading particulate meter will be used to monitor airborne particulate concentrations during site activities. Particulate concentrations shall be utilized as an indirect indicator of exposures to on-site receptors.

Dust concentrations in the SWZ will be measured using a suitable real time aerosol particulate monitor capable of determining ambient air fugitive dust concentrations to 0.001 milligrams per cubic meter (mg/m³). Air monitoring shall be conducted while active removal activities are occurring and at a frequency of one reading every two hours during active dust generating activities. Prior to the active removal actions and at periodic points during the project, air monitoring readings will be recorded to document background particulate matter concentrations.

If total particulate concentrations in the SWZ exceed the action limits (as specified below and incorporating background readings) and are sustained (i.e. greater than 5 minutes), then the following actions will be taken:

- Engineering controls (HEPA filtration, containment, etc.) will be inspected to insure proper operation;
- Work practices will be evaluated;
- Additional dust suppression techniques to mitigate fugitive dust shall be initiated.

If applicable, the dust suppression techniques shall involve the application of a fine mist of water over the area creating the fugitive dust condition. The water shall be applied either by small hand held sprayers or sprinklers. In the event that the total of airborne particulate cannot be maintained below the action limit in the SWZ, then work activities shall be ceased until sustained readings are below the action limit or the SWZ designation is re-evaluated.

OSHA has published the following permissible exposure limits (8 hour time weighted average) for air contaminants (29 CFR 1910.1000):

Air Contaminant	PEL (8-hour TWA)
Total Dust	15 mg/m ³
Respirable Dust Fraction	5 mg/m ³
PCBs (42% Chlorine)	1 mg/m ³
PCBs (54% Chlorine)	0.5 mg/m ³

In addition, EPA has established a National Ambient Air Quality Standard for PM-10 of 0.150 mg/m³ (24-hr average).

A total airborne particulate action limit has been established for the building material removal work to be conducted at the Webster House with consideration of the specific receptors, PCB concentrations, work activities, and OSHA

APPENDIX D – SUPPORT ZONE/PERIMETER AIR MONITORING PLAN

permissible exposure limits. The action limit applies only to air monitoring within the SWZ and perimeter to the SWZ; an action limit has not been set for the active work zones (exclusion zones) as engineering controls and PPE will be used within these zones.

Given the residential nature of surrounding buildings and the anticipated PCB concentration in dust that may be generated during abatement activities, a conservative action limit of 0.1 mg/m³ above background will be maintained during site work. Air monitoring at a location representative of background air conditions (i.e. a location upwind without active remedial activities in progress) will be conducted at the same frequency as SWZ monitoring to obtain data representative of real-time background conditions. The action limit will be used to determine if and when additional engineered controls and/or work stoppages would be necessary.